

NOTES

EXTRACTED

FROM A PRIVATE JOURNAL,

Written during a Tour

THROUGH A PART OF MALABAR, AND
AMONG THE NEILGHERRIES:

INCLUDING

AN ACCOUNT OF THE TOPOGRAPHY OF OATAKAMUND,

WITH OBSERVATIONS ON ITS CLIMATE, INHABITANTS, AND
NATURAL HISTORY.

BY CAPT. ROBERT MIGNAN,

OF THE BOMBAY EUROPEAN REGIMENT;

FELLOW OF THE LINNEAN SOCIETY OF LONDON, AND MEMBER OF THE ROYAL
ASIATIC SOCIETY OF GREAT BRITAIN AND IRELAND.

BOMBAY:

PRINTED AT THE AMERICAN MISSION PRESS.

M. DCCC. XXXIV.

W. C. SAMSON, MEMBER,
SHANDI' SABA'N.



TO
THE OFFICERS
OF THE
BOMBAY EUROPEAN REGIMENT,

AS A SLIGHT TOKEN OF REGARD AND RESPECT;

THIS VOLUME
IS INSCRIBED
BY THEIR SINCERELY ATTACHED COMRADE,

W. HIGGINS.

P R E F A C E.

EARLY in 1833, ill-health obliged me to quit Bombay, and in obedience to the orders of my medical advisers, accompanied by my lady and young family, I set out on a visit to Ootakamund, the principal settlement on the Neilgherry Hills.

The following pages, condensed from rough notes taken on the spots they attempt to describe, embrace the result of this excursion; and are published with the view of giving those of my brother officers, who may be compelled to resort thither under similar circumstances, some more correct ideas of the place, than I flatter myself, have hitherto appeared. In this attempt, no regular plan has been pursued. The descriptions are submitted to the reader, in the order in which they presented themselves to the writer; and provided that the portrait, on the whole, be a good likeness, it mat-

ters little in what order the various features are delineated.

As the trip engrossed but a very short period of my time, (though not a little of my money,) the reader, instead of a hot-pressed volume descriptive of a regular journey, will I trust be satisfied with this light and flimsy pamphlet—ready, like young winged chrysalis, to fly out of his mind, almost as soon as it comes into his sight. It is hoped, however, that although this thin *brochure* contains none of the enduring stuff, usually found in the unwieldy leviathans which flounder in the seas of literature, it may merit the perusal of those who are not disposed to condemn a book, from its deficiency in bulk; and though the picture, in every point of view, is very incomplete—it may not be pronounced an utter failure.

NOTES

FROM A PRIVATE JOURNAL.

ON the 15th of April 1833, I embarked in a patamar with my family, bound for the Malabar Coast ; and issuing from amidst the forest of masts, which maintain their station off the dock, and bunder heads, in the magnificent harbour of Bombay, dropped down with the tide to the middle-ground, with the wind at Northeast, and fine clear weather ; but night coming on before our tindal joined us from the shore, we anchored there.

On the 16th, we got under weigh with a fair breeze at seven A. M.—were off Severndroog at ten the next morning, and anchored in Rutnagerry roadstead the same hour on the following day.

The landing place at the little village of Rut-

nagherry, presented a very different appearance from that which is to be seen at the pier in Bombay :—no whiskered peons—no wrangling hamauls—no impertinent Parsees—no insolent servants—no groups of lounging banians—no busy and bustling natives. At Rutnagherry all is stillness. When I stood upon the poop of the boat, and looked around me, and saw only a few naked children on the beach, and one old bum-boat pushing from the shore, I could not but feel what a solitude was presented to our view.

It had been my intention to land at Rutnagherry, but the morning was so windy, and the sea so rough, that I did not think it worth a wetting to attempt the shore. It was besides, desirable not to lose the advantage of a good wind. We therefore weighed anchor, and coasted along at a considerable distance from the shore, gradually increasing the depth of water, till we at last lost sight of land altogether.

In our progress thus far, the children were much amused by the floating sea-snakes and medusæ, which abound along the western coast, and which,

(the former) were streaked with black and yellow lines with the dorsal and ventral fins of an eel. I also noticed a very beautiful insect, well known to all nautical men by the appellation of the "Portuguese man-of-war." This extraordinary worm appears to be possessed of the skill of a most experienced and cautious navigator, and is in fact a little ship of itself; as it hoists up, or lowers down its thin membranous sail, according to the direction of the breeze that may be blowing. When inflated, it is provided with a structure which furnishes it with ballast, and when a gale comes on, it descends into the ocean's bed. It has all the painted colours of the rainbow, and its crest serving it for a sail, is crossed with pink and sky-blue veins, and expands itself at will. Although furnished with innumerable tubes and feelers, which have the property of stinging like nettles, it has many enemies in the young sharks, dolphins, and medusæ, against whose attacks neither its nautical skill, nor its offensive weapons can defend it.

At the mellowed sunset of an April evening, we caught a glimpse of the coast of Malabar

stretching in a fine outline from North to South. The prospect of land to a "sea-sick landsman," is an event with which few others in this checquered life can be compared. We had been for seven monotonous days tossed about with fair wind one day, and foul the next—our chief comfort being tea without milk, and a basket of Leggett's musty bread. Is it then to be wondered at, that lying on deck the last morning of our voyage, I should feel a great accession of pleasure, when I saw the sun rise from behind the hills of Malabar, in place of rising from the level ocean? But we were still ten or twelve miles off shore, with little prospect of nearing it; for it had fallen a dead calm—in vain we whistled to the winds—in vain, when a puff of air at times curled the water, was the sail "let fall"—no ripple was heard at the prow; and a current which was setting from the eastward, gradually increased our distance from the land: but as I was ever fond of the sea, I could not much regret being thus becalmed. How magnificent is "ocean's azure brow"—under its various aspects of sublimity, and beauty; whether it obeys the stern voice of the tem-

pest, and rising from its slumbers “ mounts in spray the skies ”—or whether it rests from its toil, seeming like a crystal plain, stretched beneath an azure dome. The sublime lines of Lord Byron, rendered the scene before us impressively beautiful.

Thou glorious mirror, where the Almighty's form
Glasses itself in tempests; in all time,
Calm or convulsed—in breeze, or gale, or storm,
Leaving the pole, or in the torrid clime
Dark heaving;—boundless, endless, and sublime—
The image of eternity—the throne
Of the invisible; even from out thy slime
The monsters of the deep are made; each zone
Obays thee; thou goest forth, dread, fathomless, alone.

A light breath of wind which stole off in the afternoon in occasional unsteady flaws, carried us within half a mile of the shore, and anchoring directly opposite Tellicherry—Signalized a boat, in which we were soon seated with the little luggage we had brought with us; and to our great satisfaction, saw the distance between us and the town every moment diminish.

With the appearance of Tellicherry itself, we were rather disappointed. Viewed from the most favourable point, nothing is seen but a dead mass of mean looking buildings, and irregular rows of smok-

mg huts, intermingled with the cocoa-nut, palmyra, plantain, jack, and other trees of the tropical broad leaved tribe, rising above their dingy roofs. And so low do many of these dwellings lie on the water's edge, that a stranger almost fancies a high spring tide would overwhelm them. A very strong tide does sometimes set in, and there is often a heavy swell, but the waves are partially broken before they reach the landing place by a reef of rocks, which extend like a dike in front of the beach, nearly opposite to the Custom House. The entrance into this natural port of security is very narrow, but the water thus sheltered from every wind, is as smooth as glass; and the basin, or harbour, spacious enough to contain a great number of boats. We counted no less than thirty, lying all in a row—touching the inner ledge of the black rocks, and as still as if a dead calm prevailed beyond them, notwithstanding the heavy swell, which rolled inwards to the very verge of the reef, and along the whole line of coast.

The anchorage for shipping, is upwards of two miles from the shore, which makes it fatiguing for

boat's crews—especially those from a northern climate, to pull so far under the rays of a vertical sun. A harder duty can scarcely devolve on a seaman, than being obliged to row against a heavy swell in taking off cargo, or provisions, to the roadstead.

The boats used along this part of the Malabar Coast, are long, narrow, and flat-bottomed; with high sides formed of planks sewed together with koir rope. They are used not only in fishing, but also in carrying considerable cargoes to the ships. Dozens of them are always hovering about, sometimes with only a boy to manage them. I have seen a couple of black urchins go out to fish, and they worked away in a rough sea, apparently with more ease than a Deal boat's crew could have done. They are not afraid to venture out in the stormiest weather, for although the boat may over-set, they say she will never sink. It is very amusing to watch them in a stiff breeze, they sail so easily, and so beautifully. The boys seated on the stern, ride away over the billows with helm in hand, managing their skiff like a practised rider on a smooth plain, would curb his steed and, after

they have spent the day, and not unfrequently the night also, in fishing; they return to the shore, seated in their chair of state high above the water, laden with their spoils, and drying their wet clothes in a tropical sun.

We were also disappointed at the first view of this part of the continent of Southern India. The country in the neighbourhood of Tellicherry lies very low, and as far as the eye can reach, the horizon is bounded by wood. The gloomy waving of the trees, overshadowed by the dark and lowering clouds which announced the speedy approach of the Southwest Monsoon, made the landscape peculiarly dreary; and although we were assured that the phantoms of gloom with which we had peopled these impervious jungles would be dispelled upon a more intimate acquaintance with their recesses—yet, I could not help contrasting the prospect before us, with the bold and cheerful landscapes of Persia and Armenia—where mountains, peaks, and glens—vineyards, orchards, and woods, display the majesty of nature in every variety of beauty and grandeur, that the eye can wish to rest upon and where.

far, far above all, arises the stupendous peak of Ararat, severed from the lower world, and flung up to heaven, to find its resting place on the fleecy clouds of the middle sky. Having gazed in rapture on scenery such as this, we could scarcely help feeling disappointed, at our first view of Southern India.

I never experienced a more delightful reality, than the consciousness of being stretched in a snug camp cot on shore, after having been cramped up for a week or two in a dirty pattamar. At first, it is a reality that we hardly believe in; because the heaving and pitching to which we had been for some time accustomed, seems communicated to every surrounding object: the walls totter, the roof bends, and the bed creaks; and it absolutely requires one to be thoroughly awake, in order to have a perfect conviction of the reality, and the deception. As to the children, they all dreamt both long and loud, and we even, fell asleep in the belief that we were rocking about in Neptune's car, and slept soundly, and much longer than we had intended.

The climate of Tellicherry, during our stay, was excessively enervating, and therefore any thing but agreeable. In the day-time the thermometer ranged from 88° to 92° ; and at night frequently from 89° to 93° . On the 25th of April, Fahrenheit's thermometer in the coolest part of the shade at two o'clock, P. M., indicated 91° , and in the sun 121° ; giving a difference of 30° . At midnight it was 88° , giving a difference of only 3° between the temperature of mid-day, and midnight. A thermometer plunged into the sand, indicated a temperature of from 130° to 135° . Between half past four, and nine in the evening, the heat was sometimes suffocating. If the morning broke with a clear sky over head, and the sun rose unconcealed by haze; and when also the horizon was broken in a dark tremulous line, a northerly wind was sure to set in about half past eleven o'clock, and dissipated the bodily and mental exhaustion caused by the hot nights, and sultry mornings, of this low latitude. About sunset, the breeze gradually died away, and was succeeded by a calm which lasted throughout the night. From sunrise till the hour

when the sea breeze commenced, there never was a breath of wind; or, if the surface of the ocean was occasionally ruffled, it was only here and there, by those little tantalizing puffs, which we all know so well by the name of "cats-paws."

On a few occasions, the morning broke with dark clouds, and the sun was dimmed by vapours; then a strong southwesterly wind followed during the day, and we were always covered with sand and dust. Heavy rain sometimes accompanied these brisk gales, and a high swell, which rolled in from the sea, and raised so high a surf on the beach, that it cut off all communication between the shore, and the vessels at anchor.

In forming the plan of our journey through the interior, (no easy business, with four young children, and their female attendants,) we were most materially assisted by that intelligent and obliging Parsce, Darashah Cursetjee, who has resided on this part of the Malabar Coast for the last five and thirty years; and who will readily procure palankeen bearers, and baggage coolies, for the trip hence, to any inland station, without expect-

ing, or even consenting to receive any remuneration, for such service.* We were entirely guided by his advice; and it may not be unimportant to mention, for the benefit of those persons who contemplate a similar course to ourselves, that Cannanore in preference to Tellicherry, is perhaps the best point of disembarkation, as in addition to the assistance of their friends, they will experience little trouble in securing bullock carriage—a desideratum, not so easily obtained either at Tellicherry, or Calicut. The hire of cattle from Cannanore varies from five and a half, to six rupees each, and the usual load is *five* maunds weight; while a coo-

* This is a class of people whom I *much* venerate. They are a link between the Hindoos and Mahomedans; a sort of Quaker or non-descript blending of the other two. The Parsees form the centre, the Hindoos and Mahomedans the *droite* and *gauche*; by the mere *vis inertiae*, the difficult art of keeping quiet where they have burning skes and several synagogues militant around them, they contrive, in their own unnoticed way, to do an immense deal. By weighty purses, excellent address, and few words, they wield every thing, are courted by the poor attorneys, and now and then, when their assistance is requisite, are charitably assured that they *may* be saved. I know no one more eloquent before a Hindoo, who has any understanding, than a Parsee. If they were transplanted into England, they would excel in carrying loans, railways, job gals, joint stock companies, and such like improvements, without difficulty or suspicion.

ley from the other two points, receives three and a half rupees, and only carries *two* maunds. It is also proper to mention, the absolute necessity of engaging good servants at ANY wages, and of supplying them with warm clothing: this is, however, no easy matter; for the Bombay servants in general, would as soon take a trip to the Himalayah, as the Neilgherry mountains. Even the Madras servants of character, (if any such be,) have so unconquerable an antipathy to the Neilgherries, that whenever they can possibly obtain a livelihood on the plains, no reward will ever lure them to the mountains; and such hatred exists between the Madras, and Bombay servants, that on the latter, ascending the Neilgherries, the former, use every means in their power to scare them away, when *we*, are immediately consigned to the "tender mercies" of the *veriest canaille* in all India. In fact, it is notorious, that an infernal legion of reptiles ejected from Bangalore, Trichinopoly, and other large stations, have crept into every corner of Ootakamund, preying upon the visiter like the unfledged pelican, that lives and fattens on its parent's

blood. If it be true, that England is the hell of dumb animals; Ootakamund, is the hell of speaking ones.

The distance from the coast to the sanatory station on the Neilgherries viâ Tellicherry, or Cannanore, is only one hundred and twenty-four miles, or nine easy stages; while the route from Calicut by Paulghautcherry, is full one hundred and sixty miles: with greater fatigue, and greater expense in travelling through the country. I am inclined to think, too, that the expense of the journey, is hardly repaid by the sight of any thing that is not to be found in Wynaud. The Tellicherry road is also adapted to wheeled carriages as far as Manontoddy, but the country is thinly populated, and the supplies both few, and indifferent. If, however, the traveller takes pleasure in beautiful scenery, he will be amply repaid for these little inconveniencies. On landing at Tellicherry, supposing him to arrive in March, or April, (as most visiters to the Neilgherries do,) he will find the heat intolerable. I would therefore advise him instead of domiciliating himself in furnished apartments in

the town, to betake himself to the upper rooms of the Custom House, which overlook the sea, and which would be sufficiently commodious for himself and servants, during his stay.*

People make an egregious mistake in reaching the Neilgherries just before the Southwest Monsoon sets in, because they lose all the salutary effects of the fine frosty weather; and by the time the rains are over, they are tolerably disgusted with the climate. In order, therefore, to enjoy the four delightful months in the year, they should decidedly start early in November; and no invader should ever think of quitting Bombay, after the beginning of April, *at latest*.

Even then, he must console himself with the prospect of scorching days, and sultry nights—with much rain throughout the country immediately below the Ghauts, and upon the coast; which will only tend to retard his progress, without relieving his exhausted frame.

* Travellers arriving at Tellicherry are generally charged one rupee and a half per diem house rent; but those rooms are to be had *gratis*, on application to the authorities.

The bungalows which have been erected at the expense of Government, are sufficiently comfortable, and most conveniently situated at the following places, viz. Kota-puramba, — Kanote — Periah — Manontoddy — Saltaun's-Battery — Nelliallum — Goodalore — Neddy-wuttum. — At the first of these stages, there are two public bungalows partially furnished, and the other halting stations, successively afford good accommodation for travellers, — especially, Manontoddy, where there is an excellent upper-roomed house. In this respect, the route will be found better provided, than strangers are usually led to anticipate: indeed, in some instances, the bungalows surpass those of more frequented districts.

The following table exhibits the several halting stations between Tellicherry and Ootakamund, and their relative distances.

	Miles.	Fur.
From Tellicherry to Kota-puramba . . .	8	4
To Kanote	8	2
To Neddy-brinjaul	12	2
To Periah	5	0
To Manontoddy on the left bank of the Kumbalay river	15	0
To Panartacottah	10	0

	Miles.	Fur.
To Sultaun's Battery	16	0
To Nelliallum	15	0
To Goodalore	12	0
To Neddocbetta on the summit of the pass .	4	4
To the Pykerry river, and ruined bungalow .	6	4
To Ootakamund	10	4
Total	<u>123</u>	<u>4</u>

I had nearly forgotten to mention, that those of my brother officers who come this way, should provide themselves with passports signed by the Adjutant General of the Army, or his Deputy. People have often been detained in most unpleasant positions, until such documents have been produced. The sooner such an order is abrogated, the better.

We quitted Tellicherry in the afternoon of the 26th of April, for the principal settlement on the Neilgherry mountains; and took the road to Kota-puramba. As carriages are seldom, if ever, used on this road, all the travelling is either on horseback, or in palankeens. The only wheeled vehicle in common use, is a lumbering cart drawn by two or four oxen, at a very slow rate; but the transport of supplies from the coast to the Hills, is performed almost entirely by bullocks. Some

natives, occasionally travel as far as Manontoddy in covered carts; but on account of the ruggedness of many parts of the road, this mode of conveyance is generally reserved exclusively for their women, who are subjected to the same domestic despotism in this, as in every other part of the East; and whose situation, is in no degree removed from the classification originally made, by which a man's wife and his slave, his maid-servant, his ox, and his ass, are equally defended from the covetousness of his neighbour.*

Instead of travelling during any part of the day when the heat was intense, we took one half of our journey early in the morning, and the other in the evening: indeed, the weather was so parchingly

* The Hebrew words *gnebed* and *amak* in the seventeenth verse of the twentieth chapter of Exodus, above alluded to, which are rendered in our version "man-servant and maid-servant," mean literally bondsman or slave, and bondswoman; in which sense they are applied in the forty-fourth verse of the twenty-fifth chapter of Leviticus, in contradistinction to the word *sakir*, which signifies a *hired* servant, and not a slave by possession. But innumerable instances occur throughout the Old and New Testaments, of passages which depict the subordinate situation of women, and inculcate the superiority of *male* children above *females*. Ex. gr. Gen. iii. 16; Jer. i. 37; Levit. xii. 4, 5; John xvi. 21; 1 Cor. xi. 8, 9; xiv. 34; 1 Tim. ii. 2; and a thousand others.

warm, as to be only tolerable after sunset, or during the prevalence of the sea-breeze, of which, however, we were soon deprived by the intervention of a chain of low hills, between us and the coast. Drovers of cattle were feeding on the pasture which lay between us and the sea, and here and there were patches of paddy land, from whence hot vapours rose like the breath of an oven. Similar to most of the scenery in this low latitude, the view embraced a profusion of foliage, which, on the whole, offered to the eye a degree of richness unknown in regions nearer the pole. By the side of this vegetation, that of Europe would appear poor and tame. Here, however, the species of trees are few, and all have a port and foliage in which much sameness prevails.—On our route we passed several huts built of reeds, with semicircular roofs, thatched with the large leafy branches of the coconut. We also fell in with large parties of bullock drivers, who with their cattle, were resting by the roadside under groves of trees, which afforded them shelter from the heat of the sun. These people employ themselves either in transporting rice to the

interior, or in conveying it from the adjacent villages to the coast, for the purpose of cleansing the grain from the husk. Their bullocks, often to the number of at least a hundred, were picketted in regular rows, and grazing near their loads, which were placed in heaps on the ground. I was often tempted to dismount, and join these parties to drink the luscious, cool, milky beverage from the green husk of the cocoanut. As night, however, was fast approaching, I denied myself a luxury, more tempting now, than it had ever appeared to be before.

Shortly before we reached our halting place, the trumpet of sleep was very audible from the children's palankeen, so on our arrival we lost no time in carrying them to their cots—all fast asleep, and in consequence of the heat of the night not overburdening them with clothing: but they were sadly annoyed by the fleas and musquitos.* I strongly recommend those of my Bombay friends who intend travelling this way, at this period of the year, to

* On our return in the month of January, we completely escaped their assaults. The bungalows were freed from their presence.

bring their musquito curtains along with their camp cots; and I think I shall be doing a very acceptable service, by reminding them in regard to the last of these conveniences, that the feet ought to be placed in the centre of round wooden cups, about an inch deep, and three inches in diameter, and these must of course be filled with water, which will effectually stop the progress of vermin from the floor or walls to the bed, which is then a citadel surrounded with a moat. With these precautions, a traveller may sleep as free from bite or sting, as he would in Rampart row. All the village huts were remarkably free from musquitos, in consequence, I imagine, of their being generally filled with smoke.

As we entered the village at rather a late hour in the evening, the inhabitants had retired to rest, but they soon became aware of our approach by the loud barking and yelling of several dogs, one of which I had great difficulty in coaxing into forbearance, until the authoritative voices of some of the villagers restrained his zeal. We were received at the government bungalow by a portly old peon,

who, acting under the orders of the civil authorities of Tellicherry, brought us an ant-eaten book, into which we inserted our names; adding from whence we came, and where we were going; and after satisfying himself with a few *etcæteras*, posted off for milk, butter, eggs, and grain. He speedily returned with a fat fowl under his arm, which was as speedily plucked, and popped into a kettle. I presume every one knows that a fowl is as tender, if boiled the moment it is killed, as if it be kept the regular time laid down in Mrs. Glass's book of cookery. On closing accounts with our official friend, we found him as civil as his charges were moderate. I would advise all who come this way to carry their money in small coin, as owing to the extreme poverty of the villagers, they will find it very difficult to procure change, even for a single rupee.

In consequence of the severe, and continued indisposition of my lady, we were most anxious to reach the summit of the ghauts with every possible speed, and accordingly started from our station before the dawn of morning. For some hours we hurried on in darkness, watching the gradual break-

ing up of night: at length, the mists which wreathed around the hills "melted into morn, and light awoke the world." The full glare of the rising sun dissipated the forest's gloom, which still, however, so thick and luxuriant was its foliage, retained a sort of twilight dimness, and mysteriousness. The scenery was truly romantic, the ponderous range of mountains now advancing boldly towards the plain—and now opening out into long vistas of lovely valleys. It was impossible to help admitting that there are real beauties in a wild and rude country which disappear at the approach of civilization. In England, for instance, the soil abounds only in plants which are either useful, or ornamental. Nursery and kitchen gardens have so trenched upon the domain of the wilderness, that space is scarcely left for the existence of those trees which man has no call for. The primeval forests have entirely disappeared, and nothing now remains but extensive plantations intersected by carriage roads, and foot paths, through which we are easily conducted, and in which the savage animals no longer find a refuge. Generations of trees are renewed in

quick succession on a soil which the industry of the cultivator keeps in constant requisition, and it is mere chance when one solitary tree is left to end its career by old age. We were never tired of admiring the endless multitude of trees mingling promiscuously together; so different among themselves, and so singular in structure. Those enormous teak trees* exhibit no symptoms of decay, although their age goes back to the most distant period—those extensive climbers, twisting themselves like cork-screws around the tallest trees, and rearing their heads high above their tops—those towering bamboos† which, reaching the height of

* The teak tree, (*tectonia grandis*,) like the oak, takes from fifty to a hundred years to come to maturity. It often grows to the height of eighty feet, and has been known to attain a diameter of eight feet. Its geographical distribution is comparatively limited; Southern India, and the Island of Java being its favourite habitations. Teak wood is much stronger, and far more buoyant, than oak. Its durability is more decided, and unlike the oak, it may be put in use almost green from the forest, without the slightest danger of wet, or dry rot. Oak, contains an acid which corrodes, and finally destroys iron—teak, on the contrary, possesses an essential oil, which materially tends to the preservation of iron. It is the only wood in India, which the white ant will not touch.

† Bamboos (*Bambusa*) are believed to bear fruit as they attain the age of fifteen years, and to die immediately afterwards.

seventy feet and upwards, and knitting together their long and flexible branches by innumerable knots and turns, encircle as it were, in one group, the whole vegetation of this wild region. To clear a road through these, neither fire nor axe would be sufficient; the one would soon become extinguished for want of circulation in the air, the other broken by the hardness of the wood. The soil appears incapable of giving room to the germs which it develops. Each tree disputes with others, which press on every side, the earth it wants for its own existence. The strong stifle the weak, while rising generations obliterate the slightest traces of destruction and death. Vegetation never flags, and the soil,

When young, their *very* growth is almost perceptible, and they sometimes reach incredible heights. They have been known to spring thirty inches in one week. In this part of India, these gigantic grasses flower in such abundance, that the seed mixed up with wild honey is an article of food in some parts of the Mysore country. They have been found forming extensive forests, as high up as two thousand seven hundred feet above the level of the sea, and dispersed about in small bushes at elevations fully double that height. I have heard Humboldt himself say, that he met with the *Bambusa Guadua* in New Granada, from on a level with the ocean, up to the height of five thousand five hundred feet; and that distinguished botanist, Dr. Wallich, of the Bengal Medical Establishment, met them in Martaban, with stems a hundred feet high, and attaining at the base a diameter of eleven inches, with sides one inch in thickness.

so far from becoming exhausted, daily acquires new fertility. Numberless animals of every kind—quadrupeds, reptiles, insects, birds, beings as diversified and strange as the vegetation of the place itself, retire beneath the canopy of these ancient jungles, as into a tower proof against the attacks of man.

Those, who have never been in any other than woods of small extent, can form no conception of the silence and solitude which pervade the greater forests. The former are full of birds, in whose very sight there is gladness, and in whose chirpings there is no touch of melancholy: and being associated too, with orchards and gardens, images of gladness are awakened by their presence. But no associations like these belong to the forests of Wynaud,—no sweet birds hop from bush to bush,—no joyful songs are in the air,—the rustling of the jungle does not denote the presence of the tuneful lark, but of some wild and ferocious animal with whom man can have no association.

I have said our journey commenced early; and as we wound along the steep sides of the hills, the sun

rose over the blue Ghauts which stretched in a semicircle before us. At our feet lay the little hamlet of Neddy-brinjal, snugly embosomed amidst the woods. To the left a long ridge of mountains, covered now with floods of light, and dressed in every hue the imagination can conceive, shut that part of the picture. To the right, the eye stretched over an interminable sea of woods. No painter could ever depict such a scene. Compared to this, an English sunrise is a common-place affair. That dull gray atmosphere is chilling to the blood; and damps not merely the physical, but the mental man. Here, the bright brilliant atmosphere was of gorgeous purple. It floated around, and above us, giving and heightening beauty. The "rosy fingers of the morning," is an epithet we now fully understood. Hills and trees, rocks and jungles, were all bathed in floods of this glorious light, as the sun shot above the hills, and looked down in unclouded majesty upon the beautiful scene below him. I question if even the pencil of a Rembrandt, could give an adequate idea of this sublime aspect. We stopt a few minutes to look upon the prospect, for

it was impossible to hurry over such a road, although we had the ascent of the Ghaut before us; and the fresh air of morning would soon give place to the sultry heat of day. We passed through the little village already named, and commenced the ascent of the Periah pass, which although tedious and fatiguing, presented no difficulties whatever when compared with the ranges we had seen. The road, which is cut through a fine red argillaceous clay, was very laborious for the palankeen bearers to climb, who frequently stopt to rest awhile, and who were compelled to use sticks with iron nails at their ends to prevent themselves from being thrown down by the weight of their burdens. No sooner, however, was this part of the Appenines attained, than we all experienced the greatest relief, in consequence of the rarefaction of the air, which argued a considerable elevation. Indeed the temperature of the air was much cooler than we were at the time prepared for, and a thermometer of small dimensions which had fallen at least 10° , announced an elevation of two thousand seven hundred feet above the level of the sea. What traveller that

has performed this journey, but remembers with undiminished delight the views he caught from the lofty pass of Periah, with the blue sea offering itself to his eye in the distance?

With every deference to scientific men, I would suggest that when a traveller has not the power of resorting to the more generally practised operation with a barometer; that perhaps the readiest and simplest method of ascertaining the true height of mountains from the boiling point of water, is with a tea-kettle and thermometer: but great care must be taken to keep the water free from all extraneous matter, the presence of which affects the boiling point at least $4^{\circ} 5$ degrees. To those who use barometers, I would recommend one with a tube at least a quarter of an inch in diameter, and as to the thermometers, the common instruments are mere playthings, scarcely two agreeing within a quarter of an inch of each other; whereas the questions of meteorology, &c., now of interest, require the measurement of $\frac{1}{500}$ th part of an inch of the mercurial column.

We were now some five and thirty miles from

Tellicherry, which lay at the extremity of the landscape we had so much admired. The wooded hills we had gazed on with such pleasure, now formed the chief features of the scene—shelving down towards the coasts of Malabar and Canara, with a bold and graceful sweep. The atmosphere was so exquisitely clear, that, even at this distance we could clearly discern the buildings of Tellicherry glittering and sparkling in the sun, whose beams were “illuminating the depths of the sea”—and the master attendant’s circular tower was plainly visible, seated on the margin of the illimitable ocean.

In our progress thus far, several fissures in the rocks were observed, more or less vertical, filled with a brown powder indicating the presence of iron, and perhaps also of tin. The veins, which denoted the presence of these metallic substances, generally extended in an East and West direction. The dark powder lay in such abundance on the surface of the road, that our hamauls brought me large handfuls of it which weighed like lead. This was confirmatory of the general observation in nature, that metals are always rendered heavier by calcination.

As our quarters at Periah were neither comfortable, nor commodious, and people were employed giving a new coating of thatch to the bungalow; we lost no time in advancing into the picturesque district of Wynaud, which strikingly reminded me of the wooded portions of Persia, particularly Mazanderan on the borders of the Caspian sea. As far as the eye could reach, the horizon was bounded by impervious jungles; and although we did not much like the appearance of these dark forests from the sea,—now, that we had ridden through them, we were quite charmed with their luxuriant appearance. I am ashamed to acknowledge that the names of many of the trees and shrubs were unknown to me, but among the indigenous productions of the forest were the Copal tree, (*Elæocarpus Copalliferus*) the Cardamom tree, (*Elitharia Cardamomum*) the wild cinnamon, (*Laurus Cassia*) the Tamarisk (at Manontoddy) (*Tamarix Orientalis*) the Tamarind, (*Tamarindus Indica*) the ginger plant, (*Amomum Zinziber*) the Indian vine, (*Vitis Indica*) and a scandent kind of palm, (*Calamus sis-pionum*); among these, the *Epidendrons* and *filices*

were both various and beautiful, and our road was at times literally bespangled by several species of *Justicia*.

We experienced a great difference between our present climate and that of Kota-puramba; especially, at night. Both Kota-puramba, and Periah, are sufficiently hot during the day, but at Periah, which stands on an elevated country, the thermometer fell fifteen or twenty degrees at night; whereas at Kota-puramba which is near the sea, there was much less variation of temperature.

As we got higher on the mountains, the scenery became more distinct, and our view more extensive; till at length we saw the Neilgherry range of mountains that were full sixty-five miles distant, pencilled on the sky, and soaring away into the heavens! Still toiling over an undulating road, with a thunder storm at our heels, we were fearful lest we should get a thorough soaking before we reached shelter; but as our hamauls exhibited great alacrity in obeying our calls upon them for a race, we succeeded in gaining Manontoddy before the purple of evening had settled over its swelling hills. Along the South-

west portion of the sky, deep black clouds were rising, one after another, in massy lurid-looking columns; while at intervals a long loud growl would burst out, and roll along the hills, telling in very definite language, the nature of the hosts we saw advancing. Shortly after our arrival, the sky became absolutely black; and the air very sultry. The lowing cattle looked up wistfully to the sky, evidently in a state of alarm, and scampered off to the village as the storm broke over it in all its fury; but rolling onwards to the mountains with wonderful rapidity, their fears were soon dispelled.

After dining with no ordinary appetite at Captain Minchin's quarters, we betook ourselves to rest, to dream of the beauties which the day had shewn us.

Manontoddy itself, is the Head Quarters of the Wynaud Rangers, an irregular corps, stationed here for the purpose of preventing the smuggling of tobacco, and other highly assessed articles between the Mysore country and the sea-coast. The traveller will find Captain Minchin who commands the station, particularly attentive and hospitable, and

always prepared to accelerate his progress to the Hills by supplying him with relays of bearers. A letter, however, should always be sent forward to apprise him of the number that may be required. We, preferred hiring them at Tellicherry to run us the whole distance; for which service each set received fifty two rupees.*

About five and thirty years ago, Manontoddy was a very important station in occupation of the Bombay troops, and commanded by my late father Colonel Mignan; who on the conclusion of our wars with Tippoo Sultaun, in which he took a most active part,—was appointed through the recommendation of Colonel Wellesley, now Duke of Wellington, to the command of the provinces of Malabar and Canara.

I crave the reader's pardon for obtruding a faint outline of my parent's services in Western India. In the year 1767, he joined the service as a Cadet. At this time, Hyder Ally, the most formidable single enemy that ever threatened our Eastern pos-

* The journey from Tellicherry to Ootakamund may be performed in two days.

sessions, hung over the Carnatic; and my father after passing some time at the Presidency, was posted in 1769 as Ensign to the Sixth Regiment Native Infantry, then under the command of Lieutenant Colonel Cay. He embarked with that Regiment which formed a part of the field force, to act against the possessions of Hyder Ally, on the coast of Malabar, and in the course of this service, while in charge of the Light Company, gave such satisfaction, that he was presented with a valuable sword. In 1778, he was promoted to a Lieutenantancy; and in November of the same year, appointed acting Adjutant of his Regiment, which returned to the Presidency to accompany the Deccan expedition under Brigadier General Egerton. The particulars of this service are too unpleasant, and too notorious, to require a repetition: it is enough to say, that the Presidency of Bombay was so seriously embarrassed by the pressure of the Mahrattas, that the Governor General Warren Hastings, actually ordered a detachment from the shores of the Ganges across the continent of India, through hostile and unknown regions, to co-operate with the Bombay

forces. Colonel Goddard, who commanded this brave little band, reached Surat in December 1779, having averaged, during this perilous march, eighteen miles per day !

The war being again renewed, the Grenadier Regiment commanded by Major General Anderson, and of which Lieutenant Mignan was Adjutant, took the field on the first of January 1780. A junction was effected between the Bengal and Bombay troops under Brigadier Goddard; and on the nineteenth of the same month, the army took possession of several fortified towns in Guzerât, including its celebrated capital, Ahmedabad, which was carried by storm in five days. Lieutenant Mignan led on the left wing of the Grenadiers at the siege of that city. In the following April, he was appointed Aid-de-camp to Major General Nilson, and accompanied Brigadier Goddard's force that surprised and routed Sindia's camp. In May, he returned to Bombay, and joined a detachment under Colonel Hartley, to oppose the enemy then encamped on the river Arless. In 1781, General Goddard appointed him Adjutant and Quarter-

master of the 12th Battalion Native Infantry, and subsequently to the command of the Grenadiers of the 14th Native Infantry, composing part of a detachment under Major Forbes, which reduced and occupied several important forts. In December 1782, Lieutenant Mignan was re-appointed Adjutant to the Grenadiers by the unfortunate General Mathews, who commanded an expedition to the coast of Canara. In 1783, he led the storm of Honâver (Onore) with the Grenadiers, and captured the fort. He also led the attack on Cundapore, and about the middle of the month moved towards the great pass of Hussain-gherry-ghaut. The ascent, which consisted of a winding road of about six miles in length, was defended by batteries and redoubts at every turning. The pass was entered on the morning of the twenty-fifth, and the troops carried every thing before them with the bayonet, until they reached a very strong redoubt on the summit of the ghaut. This at first sight appeared impregnable, but Lieutenant Mignan with a few Grenadiers, took a circuitous route—clambered up the rocks—came round upon it from an unobserved

quarter, and the whole pass was soon placed in their power. The army then advanced to Bednore, and his Regiment took possession of the fort. It was then ordered upon Annanpore, which place was carried on the fourteenth of February. From thence his regiment joined the troops forming the siege of Mangalore, which it was also ordered to occupy on its capitulation. He carried a commanding out-work at Mangalore, but did not storm the breach, as the place surrendered. Tippoo Sultaun now proceeded to lay siege to Mangalore, and a large body of his troops under a wily old chief of Hyder's being considerably in advance, were attacked by the brave Colonel Campbell, and beaten back with the loss of guns, ammunition, and tumbrils. The besieging force is stated to have been composed of sixty thousand horse, thirty thousand disciplined sepoys, six hundred French infantry, Lally's corps of Europeans and Natives, a French troop of dismounted cavalry, several thousand irregular troops, and eighty pieces of artillery. The British garrison under the gallant Campbell, consisted of only six hundred and ninety-six Europeans

(officers included) and two thousand eight hundred and fifty sepoy, besides Pioneers, and camp followers; yet, for nine long months, did this little band occupy the services of Tippoo's main army. Lieutenant Mignan, on this ever memorable defence, was severely wounded by a musket ball in the head, near the right temple; and was particularly recommended to the notice of government by his commanding officer. In fact, he bore a most conspicuous part in all the military operations which took place from 1778, until the signing of the definitive treaty with the Sultaun in 1784. On the British evacuating Mangalore, and arriving at Tellicherry, Lieutenant Mignan was appointed an acting Major of Brigade to the Bombay Army. In the year following he returned to the Presidency, and the Commander-in-Chief instantly conferred on him the command of the Seventh Battalion Native Infantry. In April 1790, he obtained his company, and still in charge of the seventh, was ordered to join the detachment under General Hartley for the relief of the Rajah of Travancore, whose territories were overrun by Tippoo's troops. On the tenth

of December, the detachment came up with the enemy strongly posted for defence, and after a desperate action, he was completely defeated. Captain Mignan was also present at the capture of Fero-kabad, and Trincalore, which latter fort he carried personally by escalade. In January 1791, General Hartley's detachment formed a junction with the Bombay Army, then forming in Malabar, under the immediate command of the Commander-in-Chief, Major General Sir Robert Abercromby, who reduced Cannanore, then the head quarters, and a principal station of the Sultaun's forces. On the storm and fall of the surrounding position, the whole of the troops within the fortress laid down their arms to the number of six thousand men. After this service, and the capture of some forts of minor importance to the southward, at which Captain Mignan had the good fortune to be employed, the whole army were occupied in opening communications with the Sultaun's capital through the Coorg country. This, however, in spite of the extraordinary exertions which were made, proved ultimately unavailing; as the retreat of Lord Cornwallis

with the combined forces of Bengal and Madras from the enemy's capital, compelled the Bombay division to retrograde towards Malabar after it had reached Periapatam. The loss of ammunition, the return of the Commander-in-Chief, and the state of the season forbidding the siege of Seringapatam; the allied armies separated: they were however afterwards joined by the Hyderabad and Poonah forces, and on the first day of February Lord Cornwallis moved forward towards Seringapatam. On the fifth, the British took up their ground across a valley at the distance of six miles from the enemy's encampment. A night attack upon the formidable fortress was planned by Lord Cornwallis, Tippoo's lines were stormed on the following evening; and Captain Mignan had a most important command in the entrenchments. The brave, but sanguinary Tippoo, made a powerful resistance,—his efforts were vain—and the British Army after driving him within the walls of his fortress, commenced a regular siege. A cessation of hostilities, however, ensued, and a peace concluded on the nineteenth of March. Tippoo on signing the de-

finitive treaty, was compelled to surrender one half of his territory; and to defray the expenses of the war. In 1795, Captain Mignan commanded his regiment at the siege of Cochin, and was employed in various parts of Malabar. In 1796, he obtained the rank of Major, and the following year that of Lieutenant Colonel, and joined the force commanded by General Stuart above the Ghauts. Colonel Mignan was then ordered in advance with Colonel Montresor's Brigade to within six miles of Periapatam. On the fifth of March, he proceeded in advance of the brigade to the hill of Sedaseer, to take post, as Tippoo's army had appeared in great force at Periapatam. On the sixth of the same month, he commanded the first Battalion of the Third Regiment Native Infantry, and repelled the renewed and strengthened attacks of the enemy, commanded by the Sultaun in person, from daylight until five o'clock in the afternoon. In this action, Tippoo lost a great number of his picked troops, and drawing off his forces returned precipitately to his capital, whence he hastened to meet the army which was following him from the

East. On this day, General Harris entered the Mysore territory, and marched directly upon Seringapatam; and on the fifth of April took up his ground for the siege of that fortress. On the fourteenth, the Bombay Army effected its junction. Operations were now prosecuted with the utmost vigour, and Colonel Mignan commanded the covering parties for the breaching batteries, and repulsed the enemy in their several attacks with great loss. He assailed the Sultaun's outworks, and made a lodgement for the enfilading batteries of the Bombay Army. He commanded in the trenches during the nights of the twenty-eighth, and twenty-ninth; and on the glorious fourth of May, led the storm of the fort at the head of all the Grenadiers of the Bombay Army! Here he attracted the especial notice of Lord Harris, and for this service, received an honorary gold medal. Towards the end of the month he returned to Malabar, and took a most prominent part in the warfare of Cotiota. In August, he accompanied the Bombay Army into Canara, and obtained the command of that

province through the recommendation of Colonel Wellesley.

Here Colonel Mignan's brilliant campaigns may be considered to have closed. In 1800, finding his health much impaired by active service, and the wounds which he had received; resolved him to revisit his home and country. He announced his intention to the government, and earnestly solicited a furlough. It was negatived. His medical friends pressed upon him certificates which he rejected, on the grounds of his long and arduous services clearly entitling him to the full benefits of the regulations; and in a moment of mental irritability he tendered his resignation, which was accepted. He never doubted that when the subject should be brought before the Court of Directors—and the great share he bore in the late important events in this country, be remembered—due consideration would be given to his case, and that he would be restored to the service; but although the *whole* of the officers of the Bombay Army transmitted a memorial to the Court, praying that he should be restored to the active branch of the service—it was unheeded—

and he found when too late, that in a hasty moment he had deprived himself of an extensive command, and of every active participation in that profession, which had been the pride and the occupation of nearly forty years of his life. In 1810, he returned to Bombay, and between that period and 1819, filled several civil situations. In the autumn of that year, Lord Hastings who had been applied to by Colonel Mignan's near relative the late Duke of Roxburghe, appointed him through Mr. Elphinstone to the most lucrative command in India—that of His Highness the Nizam's Army: but he lived not to enjoy it, for at the fall of the year he had frequent attacks of intermittent fever; and on the 21st of November he closed his earthly career.

I now return to my narrative:—The country around Manontoddy everywhere presented the most romantic prospects, from the calm cultivated valley, to the hills of graceful shape. We passed many hours in strolling about,—here a most delightful occupation,—enjoying at every step new points of view, amidst a scene like an enchanted wilderness, with wood, water, and mountain, in the wildest

and most picturesque combination of uncultivated nature. On the summit of a round green hill, directly opposite to Captain Minchin's house, a tomb marks the burial place of Henry Petrie Saunders, of the firm of Nicol and Company, Bombay,—who died at Sultaun's Battery on his way to Ootakamund in pursuit of health, and was conveyed hither for interment. The inscription is simple,—it runs thus:—

SACRED
TO THE MEMORY OF
HENRY PETRIE SAUNDERS, ESQ.
OF BOMBAY,
FOURTH SON OF
ROBERT SAUNDERS, ESQ.
OF SOUTHBEND KENT.
HE DIED AT SULTAUN'S BATTERY
ON THE 2D MAY, 1831,
AGED 36.

There is something peculiarly affecting in the contemplation, and the associations which are awakened by the sight of this solitary tomb, situated in a spot so far removed from friends and home. There is no rivalry here. The Briton and the Indian sleep side by side; and although there is no country where the sight of such objects makes so little

impression on the mind of the beholder, as in India, I cannot help thinking that were Englishmen occasionally to visit the resting place of their countrymen, and the vacant space which their own ashes may one day occupy—a lesson might be read strikingly enough to decrease the number of those examples in which

“ Proud man,
Drest in a little brief authority,
Plays such fantastic tricks before high Heaven,
As make the angels weep.”

We left Manontoddy between four and five in the afternoon for Panartacottah, a poor place, where we slept; and on the following morning reached Sultaun's Battery. The road between these villages lay over detached fragments of quartzose rock, and through an avenue of trees; surrounded on all sides by a thick jungle in which the lizard and a green metallic snake found a sure and undisturbed retreat. The house at Sultaun's Battery is sufficiently large to accommodate two families, and supplies are easily procured; but we found the peon in waiting very inattentive and disobliging. This part of the district was as richly clothed in wood as

all the other parts through which we had passed. It was nearly sunrise when we caught a boundless view of the Neilgherries, distant about fifteen miles. These blue-tinted mountains were reposing in all the tranquillity of nature, and their rugged acclivities were covered with forest trees, or coppice-wood, to their summits. We passed onward over a very stony road, threading defiles of the most romantic description, and woody glens almost impervious from the rich intertwining of innumerable wild shrubs and creepers, which waved gracefully above the underwood, concealing the very ground from our view—and entering a thick jungle where myriads of fire-flies were sparkling in the sunbeams, speedily arrived at the little village of Goodalore situated amidst forest of trees of the most exhilarating verdure, infested however by elephants, tigers, leopards, bears, bisons, and other wild animals.* The traveller is cautioned against passing the night at this station, in consequence of its in-

* The wild elephant and the bison confine themselves to the extensive forests beneath the Neilgherries, at an elevation a little below 3000 feet above the level of the ocean.

salubrity. Many fevers have been contracted here, which proved fatal after the ascent of the Nalgheries had been accomplished.

We commenced the ascent from Goodalore about two o'clock in the afternoon of the 3d of May, when Fahrenheit's thermometer stood at 88° , in the open air, and $90\frac{1}{2}^{\circ}$, in the traveller's bungalow. On first starting, the temperature of the air was above 90° , and that of the sun's rays, of course much greater. My face was soon scarlet with exertion,—my travelling dress dripping with perspiration; but the passage is beautifully cut, and winds along both smoothly and easily: nevertheless we took several hours to reach the summit. Many steep cliffs on either side contained the primitive unstratified rock, consisting of felspar, mica, and quartz; but as we advanced, these were succeeded by the secondary formations, composed chiefly, if not entirely, of beds of red argillaceous sand-stone, all resting on the primary formation. We also remarked several large rounded Boulders, resting on heights and acclivities, and separated by deep valleys from the ridges from which they must have been

derived. The situation could not be less than four thousand feet above the level of the ocean. The question how these primitive rocks became transported, is a subject of much theoretical speculation; and an opinion has its advocates who maintain that these loose blocks of granite have been spread over the globe by the waters of the deluge. Though granite is very durable, and though the permanence of the lofty peaks of several granitic chains of mountains is such, as to have enabled them to defy the storms of ages: yet, some of these boulders appeared to be mouldering down with no inconsiderable rapidity. To what the proneness of these masses of granite to decay, while others are so remarkably permanent, is to be attributed, does not seem clear, but it is possible, that it may arise from their chemical composition.

The singular phenomena of moving rocks in various countries have been noticed in several publications, of apparently such a singular description as, in the first instance, to fail to obtain credence; but being found to occur in so many places, have now strongly excited the ingenuity of observers to ex-

plain them. Dr. Dwight relates in his travels that, being induced by the credited report of sober men to examine an instance of this kind, he was taken to a lake, on the shore of which lay an enormous rock, which, though now some feet *above* the water, was declared by a person long resident on the spot, to have been at least two feet *below* the surface forty years ago, and twenty rods farther from the causeway on which they were standing. From the trees, stumps, and other appearances on the causeway, it was evident the surface of the water, and the shore had remained unaltered; but upon examining the rock which was standing in water scarcely knee-deep, a channel was found behind it towards the deeper water, formed in the earth, about fifteen rods in length, serpentine in its form, and sunk from two to three feet below the common level of the bottom on its borders; in the front of the rock, the earth was pushed up in a heap, so as to rise above the water, declining at the distance of a few inches obliquely and rapidly. A little way off was a smaller rock, exhibiting similar appearances. The natural transference of rocks, is however a pheno-

mena which hitherto does not, by any means, appear to have been satisfactorily resolved.

From the summit of a lofty eminence which my horse had gained with laborious exertion, the first burst of the prospect which lay extended beneath, was truly imposing. On one side, the eye traversed the broad expanse of country, and beyond, vision was lost in an undulating plain of interminable extent, and of the richest variety, in sylvan and uncultivated surface; while on the other, a river was seen in the distance pursuing its tortuous course, and finally disappearing like a thin silvery thread in the remote obscurity of the unbroken horizon. Downwards, the view embraced the scenes already admired; behind, hills rose, copses waved, and ravines subsided, with intervening glades opened by nature's own hand, and soothing the mind with images of beauty and repose.

Near the summit of the ghaut, we passed an encampment of Pioneers, many of whom were busily employed in levelling and widening the road. Large fires were blazing upon the exterior surface of several blocks of rock, which obstructed the pas-

sage—with a view I suppose of splitting them asunder. This method of fracturing huge blocks of stone is, I believe, often resorted to in Mysore; and history informs us, that it was much practised by the Egyptians, so long ago as the time of Ptolemy.

We continued along a winding ascent, over a broad and even road encircled by well wooded hills which arose to view in such regular order of succession, that I expected from the rapid fall of the glass, we should in due time attain the snowy region; but I soon remembered that the highest mountain here was not much above eight thousand, five hundred feet, and that in this parallel of latitude (eleven degrees) it would be necessary to reach a much greater altitude to be within the boundary of congelation. The never melting snows (according to theory) begin under the equator at fourteen thousand seven hundred and sixty feet above the level of the ocean (Humboldt says 15,747) but although these may be about the ratios, they have not always been found to correspond practically at these elevations. On the Himalayah mountains, for instance, Lieutenant Gerard says, “the high-

est vegetation we saw was a plant with the leaves like sage, but without smell, and brown from the dryness of the atmosphere. It grows at the height of 17,000 feet, beyond which we found no soil." Now, according to theory, the boundary of congelation traverses the parallel of latitude thirty degrees (that of the Himalayah) at the altitude of 11,484 feet. It must, however, be remembered that this stupendous range of mountains laughs at philosophers, closets speculators, and dwindles Dr. Buckland and his fossil bones into utter insignificance.

One eminence attained, which I imagined the Mount-Pisgah of our excursion, presented another; and that too achieved, another still: at length having arrived at where I was confident from the keen air, and the juxta-position of neighbouring heights must be the summit of the day's ascension, we were welcomed to this height at once by a dense of mist carried along by the mountain breeze, as if it had saluted us from the funnels of a thousand steam engines upon the Thames. The density became still more dense; even the more "shaggy summits"

at first visible became enveloped, and on reaching our halting place for the night, (Neddy-wuttum) I found its altitude close upon five thousand feet above our last position. Consequently, we were seven thousand seven hundred feet above the level of the sea, and still six thousand three hundred feet lower than the inferior limit of perpetual snow.

At five o'clock in the afternoon, the sun was completely hid, and masses of clouds were still sailing over the mountains like mists that rise at day-break from the glens and valleys. At half past five, Fahrenheit's thermometer in the air stood at 59° , just after a heavy thunder-storm, attended with much rain. At six o'clock, it fell one degree, at nine o'clock two degrees; and at seven the next morning the glass pointed exactly at 56° . During the whole of this time the direction of the wind was from South and by West, to S.S.W. The sensation of cold we here experienced, was much greater than we expected from the state of the thermometer, owing, probably, to the rarity of the air producing an increased evaporation from the surface of our bodies; not to mention other circumstances

which must also have co-operated—such as the sudden transition from a temperature of 90°, to one of 55°, a brisk wind which blew; and the fatigued state in which we found ourselves when we arrived. Little time was lost in exchanging our light clothing for garments of a warmer texture, for the wind blew keen and strong. As to our servants, they were so much alarmed at their new and disagreeable feelings, that I could plainly see they would abandon us and return to the low country by the very first opportunity—they declared they would die if they remained up here; and they all returned to the sea-coast almost immediately after our arrival at Ootakamund.

Our up-hill work had now continued for nearly five miles, and at different turnings of the road we had enjoyed some fine views of hill and dale, all well and variously wooded; but having attained this elevated station, the view instead of presenting a bold and majestic feature, disclosed not quite a flat expanse, but a succession of undulating hills of very inconsiderable elevations, and with the exception of a few coppices, nearly denuded of wood. I was

much annoyed and disappointed at such a sight, as my imagination had in consequence of the increased altitude, pictured an out linefull of boldness and grandeur.

After leaving Neddy-Wuttum, the country still preserved the same appearance; the hills were numerous with gentle slopes, and rounded outlines—the valleys were perhaps, deeper, but uncultivated—evergreens took the place of other wood—elks instead of sheep were seen on the heights—huts were less frequent, and of a ruder construction—and as we gained the top of an occasional elevation, hills were seen at no great distance rising to a considerable height. This part of our excursion, like Wordsworth's, was most unpoetical, and the general aspect extremely monotonous. It looked as if it had once been liquid, and in the midst of some mighty storm, its waves had been solidified, and all its gulfs and surges perpetuated in the billowy agitation. It was curious to observe this uniformity of appearance for the space of seventeen miles. The soil, too, was everywhere similar; it is universally of a rich looking loamy earth, reposing on

a stratum of red argillaceous sand-stone, covering a primitive formation.

Proceeding onwards for nearly seven miles over hills whence the eye wanders along valleys withering in loneliness and sterility, we passed the remains of a small hamlet and dilapidated bungalow on the banks of the Pykerry river, which we crossed on a punt-like raft managed by two men after the manner of the ferry boats between the islands of Bombay and Colabah. We rode forward over sloping knolls, which were not very steep, but perpetual; and had a view of some miles of bare hill and dale: the latter sometimes studded with small copses. A few miles farther, and a lake was seen below on the right enclosed between some rounded hills sinking abruptly down, and shutting in its waters from all but the sky; with the buildings of Ootakamund perched upon undulating ridges which descended towards little vales enclosing deep marshes,—or “navell’d” amidst woody hillocks branching down from a chord of mountains. We made towards them with all speed, as the sky had been lowering for a considerable time; and we were yet some distance off,

when that pause of nature which usually precedes a storm had commenced, and heavy drops of rain began to dimple the surface of the puddles. I almost regretted the termination of the trip, as with it ended all traces of the magnificent scenery with which we had been so much delighted. In 1819 this place was first cursorily explored by some officers of the civil and military services, who were stationed at Coimbatore, and Paulghautcherry—but it was not until 1821, that any fixed settlement was begun; and even then, it progressed slowly until the Madras Government authorized the erection of several public bungalows under the superintendence of an Engineer officer, and subsequently of a church, which is indeed a beautiful building. Sir Thomas Munro made a rapid journey across the Neilgherries, and was greatly pleased with them, and Mr. Lushington and others of his suite were perfectly captivated with these hills, and took up their residence amongst them; erecting at their own expense some good houses, which induced many others to do the same. In fact, advances were liberally made to those officers who were desirous

■ ■ ■

of building, and cottages were soon seen rising from the "gentle declivities," until by degrees the number has amounted to at least one hundred and twenty brick dwellings—and this too in a place that, only a few years ago was the abode of a handful of the most degraded order of savages: where the axe had never wounded a tree, nor the turf had been broken, but all lay as at its creation!

The view of Ootakamund on approaching it from the westward, is both picturesque and imposing; to which I may add a peculiarity of character and situation, which renders it unlike any place I am acquainted with. The hills slope down with great rapidity,—in some places, their sides are nearly perpendicular,—in others, covered with gardens and enclosures,—and the houses either look immediately on the lake, or command a pretty prospect of verdant knolls, and woods around. No where is there a greater choice of situations, and all pretty. Every cottage may have its separate prospect,—its own green hill,—its own sloping field. Among the houses of a superior description which lie about Ootakamund, may be mentioned that be-

longing to the Commandant Lieut. Colonel Crewe, and at the moment I am writing, occupied by Edward Ironside, Esq. a Member of the Bombay Council,—also Sir James Home's,—Mr. Cator's,—Dr. Glen's,—Dr. Baillie's,—Capt. Pouget's,—and the magnificent mansion of the late Sir William Rumbold, which is remarkable for the chaste style of its architecture, and the extreme beauty of its proportions: but a paltry thatched cottage has been added to one of the wings which greatly hurts the general effect. It is indeed a noble building, and adds great beauty to the place;—the effect of which is rather diminished by the meanness of some of the offices, and adjoining cottages. The gardens are not extensive, nor have they been laid out with any taste. The walks do not run to any distances, but a thick wood forms the northern boundary of the grounds, and has a charming appearance. In consequence, however, of the exorbitant charges for board and lodging, which far exceed Ibbotson's, or even Long's Hotels;* few visitors ever reside in it:

* The expenses at the "Rumbold Hotel" have hitherto been

the apartments are very numerous and spacious, many of the walls are hung with tapestry, and the furniture is good, and often rich. The property has, I believe, passed into the hands of the Madras Government for the present; as the late Sir William was indebted to it, to a considerable amount.

Lieut. Colonel Crewe's garden, as also Mr. Ironside's, might well vie with any of the Paddington nursery grounds. So judiciously has the latter gentleman grouped, and disposed of his trees in reference to their shades, and colours, that a most lovely effect has been produced. But this liberal minded man, never fails in displaying great good sense, and the most refined taste in all his undertakings.

The healthiness and surprising effects of the climate on deranged constitutions is a very singular feature; distinguishing it from new settlements in general, and the adjacent provinces in particular. The climate of Ootakamund, the principal station, is decidedly better than that of Kotagherry, which lies

at least rupees three hundred per mensem—but I am informed that they are to be reduced to about a moiety of that amount.

much lower, and is considerably warmer. At the former place blazing wood fires are kept lighted at all times throughout the year; but at the latter, they are generally dispensed with during the day. At nightfall only it becomes chilly. Many people make a sad mistake, in residing there during the period of their sojourn on the Neilgherries, from a dread I imagine of the harsher weather, and frosty mornings of Ootakamund, which generally commence early in November, and continue until the end of March. Several of my acquaintances have been recommended by their medical advisers to live at Kotagberry in preference to Ootakamund, as the latter, they say, is too cold for convalescents after December. These clever fellows, have the privilege of knowing every thing, without the trouble of learning any thing; and represent things which have no existence but in their own fanciful imaginations. How do people exist at Simla, and the other lofty stations beyond it;—and how do the poor natives of the lowlands manage to live there, who often cannot afford to purchase warm apparel? Surely, the frosts of this parallel, at an alti-

At great heights, exercise becomes very fatiguing, and so far from feeling a pleasing elasticity, as has been so often asserted, the whole frame is relaxed, and every motion becomes an effort. I here allude to very considerable elevations, and it is odd enough that this effect is absolutely scouted by people who are really well informed. Poor Moorcroft, in his perilous journey to Thibet, complained sadly of oppression at the heart, a fulness and giddiness in the head, and in one instance he apprehended apoplexy. Humboldt, when he climbed the Andes, says that blood actually gushed from his eyes,

of my earlier years were spent—but with much the same feeling one would walk through a church-yard containing the graves of our parents. There, indeed, was the school-room, there the hoop, with its accustomed group of idlers—the very room I had inhabited with my two friends John Parry and Edward Dickson, still looked the same as ever—but where were those friends? and others, who had made that room resound with their light-hearted laugh?

“An echo answers—Where?”

Some dead, some in far distant climes—all scattered about, never perhaps in this world to meet again. Alas!

“I felt like one
Who treads alone
Some banquet-hall deserted:
Whose lights are fled,
Whose garland 's dead,
And all but me departed.”

nose, and ears; and he adds, that respiration was very laborious: and those adventurous tourists, Messrs. Hawes and Fellowes, who reached the extreme summit of Mount Blanc, only the other day, say that even at 13,000 feet above the sea, they felt the effects of their elevation—head-aches, increasing with their progress, swollen veins, and strong and rapid pulsation. At 14,000 feet, their noses bled, and they both spat blood. Mr. Fellowes, especially, suffered from this, being very delicate; but Mr. Hawes, who is a stout little fellow, escaped. Their respiration was much affected, and they could not walk more than six or eight steps without stopping. They were accompanied by nine guides, two of whom became exhausted and sick, and threw up much blood. Internal loss of blood, and blistered faces, were the lot of all. The result of the experiments of that distinguished naturalist Saussure, on the same mountain, are well known to all the students in physical science, and sufficiently demonstrate that great elevations are liable to prove most injurious to almost every complaint arising from pulmonary irritation.

Since our arrival here, the mean range of Fahrenheit's thermometer has been $57^{\circ} 5'$, and the limit of the extremes 37° and 74° . This is in an outer verandah. Within doors, the variation is very trifling. A statement of the thermometer at eight o'clock in the morning, at noon, and at eight in the evening, during a great period of my sojourn at Ootakamund, will be found in the Appendix. The following observations, however, made at our cottage from the 1st of July to the 5th inclusive, will give an idea of the temperature of these hills. The thermometer was placed in the open air on a wall fronting the South side of the house, about seven feet from the ground.

Monday, July 1st, 1833: at sunrise Fahrenheit's thermometer stood at 52 degrees; at half past seven A. M. 59° ; at half past twelve 64° ; at two P. M. 65° ; at sunset 60° ; at eight P. M. 59° .—Tuesday, 2d: at sunrise 52° ; at eight A. M. 60° ; at ten 61° ; at noon 63° ; at half past nine P. M. 56° .—Wednesday, 3d: at seven A. M. 59° ; at ten 62° ; at ten P. M. 57° .—Thursday, 4th: at nine A. M. 95° ; at two P. M. 62° ; at nine P. M. 55° .—Friday,

5th : at seven A. M. 59° ; at ten 64° — at noon 66° ; at four P. M. 59° ; at ten P. M. 56° .—During the very same period, and even at the same hours in England, I have known the thermometer to have ranged from 45° , to 86° .—Now, the extreme equability of temperature on these hills, is doubtless a great desideratum to invalids, it cannot possibly be obtained at the plain level of the earth; but as I before observed, the sun's rays are always sufficiently powerful to remind the visitor that he is still in India. Their power is greatly increased by elevation, a fact not generally understood, nor always obvious. But even in positions of perpetual snow, the sun is still our enemy; and in the month of August, while on the peaks of Mount Caucasus, I have a perfect recollection, of feeling his burning rays, when my feet were half frozen. It will astonish people in Bombay to hear that Fahrenheit's thermometer sometimes ranges from 98° to 105° in the sun, while a frost prevails in some of the sequestered valleys; and what is stranger still, a hoar frost is spread over a dale, when on its overhanging hill the temperature is 46° . Many people will

scarcely believe this, but it is easily verified, and arises from the dryness of the air: the rays of air here showered down from the heavens of deepest blue, create cold by absorption of moisture. The hoar frost remains fixed in the deep ravines and vallies, though the thermometer on the hills often indicates 48°, and even 50°. In the low country it would require a temperature of at least 32°, to create these appearances, and the thermometer has even been seen on the plains below that point, yet the grass was covered with dew; while at the same time, and at a much higher degree of temperature on the hills, a hoar frost prevailed. The fact of increased evaporation by altitude and aridity has often staggered the learned in Europe, and I have heard the subject discussed by scientific men who either did not understand the phenomenon, or were unwilling to admit it.

Before dismissing the subject of climate, I shall throw together a few recollections of the period of our wet and dry residence on the Neilgherry Hills. The rain began to fall in the "showery month of May," and continued without much interruption

until the very end of November. During a period of four months, the days were uniformly cloudy and foggy; and the weather wet and blustering. This was, however, considered a very unusual season, as a break between the termination of the Southwest, and the commencement of the Northeast Monsoons usually occurs. Nevertheless, these monsoons may be said to occupy at least one half of the year. During a great part of this period, it was utterly impossible to stir out of doors, without the certainty of a thorough drenching; and no sooner does a shower of rain take place, than the roads become as slippery as if they were sheeted in pure ice,—and although the horses are rough shod, there is no riding them without the risk of a broken neck. Foot exercise is even interrupted from this soapy state of the ground, and misty shadows, and cloudy winds, creep from their caves to chill the air with humidity. These months, however, are the only unpleasant ones of the whole year. After the monsoons take off, the climate is very pleasant, and it then begins to assume a bracing character, with clear frosty weather, a pure blue sky, and bright

sunshine,—a change which argues highly beneficial in reference to a debilitated constitution. The mornings though sharp, are not rigorous, and the noon-day rays are always fervent. The coldest month, January, averages, $51^{\circ} 9'$ of Fahrenheit; the hottest, May, $59^{\circ} 9'$, and there are about one hundred and thirty days in the year on which rain falls to an average depth of 44.8 inches. The dews are often remarkably heavy, but the air is remarkably dry; though the Northeast wind is, perhaps, more disagreeable in its effects than elsewhere, but this is obviated by closing the doors and windows. The beautiful twilight of England is, however, wanting,—night follows quickly the going down of the sun, and is sufficiently keen to make a couple of blankets, and a warm quilt indispensable. Nothing can be more brilliant than the appearance of the heavenly bodies. Venus seems like a little moon, and the countless stars which stud the deep blue sky, strongly reminded us of the beautiful appearance they exhibit in Chaldaea, where the burning stars exceed in brilliancy the glorious nights of even a northern clime: and where man is canopied by a sky

" So cloudless, pure, and beautiful
That God alone is to be seen in Heaven."

There are few places in India dearer than Ootakamund,—but potatoes, and those grains which are produced on the hills, are both abundant and cheap. The following are the prices of some of the commoner articles of food. Bread, six loaves per rupee—flour, of very inferior quality, two lbs. per rupee—roulon the same—sago, one lb. per rupee—arrowroot, two lbs. per rupee—table rice from the coast, varies from ten to fifteen Bombay seers per rupee—gram from twelve to twenty Bombay seers per rupee—Coulty from eighteen to twenty-five seers—barley from fifty to sixty seers, (Hill produce)—beef, from five to eight seers per rupee—mutton eight annas per quarter. (Meat killed here may be kept six days if hung in a cool situation.) The beef is generally excellent, and the mutton would be cheap enough if it were good—but it is often so bad that it can hardly be used for soup, and must therefore be considered dear at any price. Butter, eight small cups—ducks, one rupee each—full grown fowls, four per rupee—young

chickens, from ten to twelve*—eggs, forty-eight, but the price of these necessarily varies with the season. Ham, eight annas per lb.—salt beef, four annas—milk, eight seers per rupee—cocoanut oil four—sweet oil the same—tea of very inferior quality, three rupees per lb—sugar candy, twenty-eight rupees per tub—Soft sugar, two lbs. and a quarter per rupee brandy, 24 rupees a dozen—port, 28, Sherry 27—Lisbon, 18—beer 12; in pints, 14. These latter prices are, perhaps, not very exorbitant, because the merchants pay a duty for every dozen of brandy, wine, beer, &c. which they land on the Malabar Coast: even an officer's *private* supplies are not exempted, and when we remember that a tax has already been levied upon their importation into Bombay, the case becomes one of extreme hardship. In fact, according to the existing regulations, the very same duty is levied on our private supplies, as on those belonging to merchants which are for public sale, and it is as well

* These prices relate exclusively to the bazar, and are very high for a place situated like Ootacamund. When however, the Cochin people ascend the hills, they often sell a dozen fowls (large and small) for a rupee but they are invariably poor and tasteless.

perhaps to acquaint people who may be laying in a stock of wines, &c. for a visit to this place, that the amount of duty charged is calculated at the rate of eight per cent. on the tariff valuation of the goods—no trifling sum to the lovers of Hodgson's pale ale, for which, as I have already said, they must pay from twelve to fourteen rupees a dozen on these hills. I would also caution every one against making any reference whatever on this subject either to the Board of Revenue at Madras, or the Principal Collector of the District at Calcut, as they will have to pay a heavy postage both on their own letters, and those they may receive in reply, although every one of them may be franked by the duly constituted authorities. Not even does a letter to the Governor General's Secretary escape a charge, much less any communications which may be made to official authorities at the subordinate presidencies. I repeat, that this vexatious tax presses heavily upon all ranks throughout the civil and military services, as it is levied on every description of supply which is brought up here by those who are unfortunately driven from their duty

in pursuit of health. Nothing escapes; every one must submit or forfeit his property. Although the remonstrances of individuals are of no avail, I doubt not that if the matter was properly represented to the Bombay Government, it would, in its wisdom, cause a reference to be made to the sister Presidency; and at once free us from this unjust impost.

There are two shops established here, and the Parsees find their abodes most agreeable to their interests, and very congenial to their feelings. Their appetites are good, and they can procure plenty of cheap ghee. To speak truth, their habits are very expensive—they keep their horses, dogs, grooms, and gardeners; and squander more money in wine and feasting, than would suffice to render all the poor inhabitants of the hills wealthy and independent.

Vegetables here are very fine, and in great abundance,—a striking difference, and a convincing proof of the superiority of the soil and climate to that of the plain below, where neither corn nor vegetables will ever attain to great perfection. Here

■

potatoes ripen, and cauliflowers come to a head. Also turnips, radishes, beet-roots, onions, leeks, peas, beans of all kinds, carrots, parsnips, cabbages, lettuces, artichokes, pumpkins, &c. thrive amazingly.

The grains are wheat, barley, oats, (which is well adapted to the climate, and has been raised in great quantities by private individuals) and at least ten kinds of millet, which come to perfection in the month of September, and yield full thirty-fold of the seed employed. Agriculture, however, must at present be considered in its infancy. Grass is found both in the woods, and valleys; and in great abundance. In the marshes, which often ramify to a considerable lateral extent, fulfilling the essential purposes of draining the adjacent hills of their water, it grows to the height of two and three feet—and in these positions affords a never failing crop; which although well adapted to horned cattle, is neither nutritious, nor wholesome for horses. Of the wild vegetables, and roots, some are used by the aboriginal inhabitants as their daily fare, and berries of every description abound throughout the woods—particularly raspberries, strawberries, and

gooseberries, which supply the table from July until September; but so full of seeds, and so tasteless, they scarce deserve the name.

Few fruits, indeed, are to be met with—perhaps, in consequence of the trouble and expense of procuring grafts from a distance; and the trees growing in the gardens about Ootakamund, appear to send out premature blossoms which are nipped by cold currents of air sweeping along the hills and valleys with great impetuosity. At the Government farms, however, (which by the way are now on sale,—economy being the order of the day) a few apples, peaches, and plums, have, through extreme care and attention, been produced.

I can safely recommend the Neilgherry mountains as excellent shooting quarters; they stimulate the sporting propensities of many a young hero, and the experienced sportsman here, is almost sure to return home with a cooley load of booty, from the fat elk, to the fat woodcock. The whole country is uneven, and abrupt, full of hills and woods, and therefore full of birds. I have scarcely met a single Englishman on these hills, who does

not possess a strong propensity for field sports. While one is bagging his woodcocks, another is slaughtering as many snipes as might proviant a regiment. If we may believe Montaigne, the French were in his day, what in this respect the English are now. "Torquato Tasso, en la comparison, qu'il fait de la France, à l' Italie, dit avoir remarqué cela, que nous avons les jambes plus gresles, que les gentils-hommes Italiens, et en attribuent la cause à ce que nous sommes continuellement à cheval." We are indeed a nation of Nimrods; and it is our education that makes us such. All of us hear from boyhood, one or other of the varieties of the chase spoken of as the most ecstatic pleasure in life, and what is perhaps yet more seductive, as the most aristocratical. "Pius Æneas," is decidedly our model. His first day's shooting was not amiss:—

——tristtiora cervos

Prospicit errantis; hos tota armenta sequuntur
 A tergo, et longum per vallis pascitur agmen.
 Constitit hic, arcumque manu celeris-que sagittas
 Corripuit, fidem quam tota gerabat Achates;
 Ductoresque ipsos primum, capita alta ferentis
 Cornibus arboreis, sternit; tum vulgus; et omnem
 Misset agens telis nemora inter frondea turbam.

Nec prius absistit, quam septem ingentia victor
Corpora fundat humi, et numerum cum navibus aequat.

Here is a description enough to make any elk-stalker's mouth water. Æneas must certainly have used a double barrelled bow, unless indeed, which is not impossible, Virgil used a *long one*.

But this is a digression. The Neilgherry shooting ground is our text at present. Some of the keenest sportsmen on the Madras Establishment prefer it to England, or even to Scotland; and Mr. Lushington with an ample cargo of Marqueès Manton's, double and single, rifled and plain, copper caps, stew-pans, savoury pies, Port, Madeira, and Sherry, asserted our rights among these mountains, and the elephants, tigers, and bears, are beginning to entertain a respect for our prowess from the Khoondahs to the very level of the sea. Nay, even the athletic Toda, allows us to take the lead of him in his own land; and around the base of the Neilgherries, our fox hounds challenge with their deep music the skulking wolf, beneath the guidance of the servants of "John Company."

I never visited a place in which I remember to

have heard so many complaints of cheetas as Ootakamund. They haunt the neighbouring woods, committing great ravages amongst the peasantry and cattle. I have known them enter some gentlemen's outhouses, and carry away cows, sheep, and goats,—and in several instances have actually tore off dogs from the very kennels, even, in which they lay.* In the woods are also hyænas, foxes, jackalls, hedgehogs, mountain sheep, and dogs, which last are of a shaggy appearance, resembling the jackall, but about thrice the size, with long bushy tails, and very ferocious. Among others of the feathered tribes are enumerated eagles, hawks, partridges, quails, jungle-cocks (a magnificent bird), woodcocks, snipes, wood-pigeons, thrushes, black-birds, woodlarks, skylarks, yellow-wagtails, swallows, vultures, crows, kites, and many English small birds. The snipe shooting commences about the 20th of September, and generally lasts for six months; these birds are to be found about the swamps, and indeed scattered all over the fields in

* The greatest elevation at which these animals are met with in this part of India is about 8,500 feet above the level of the sea.

every little marsh, or boggy ground, and, with a dog who knows his business at them, shew very good sport. In the verges of the copses the woodcock is also found, but not in any very great plenty. They are smaller,* though of the same shape as our cock, and the male is of a dark brown colour—the female smaller, and lighter: rise and fly slowly when first started, but if put up a second time, with great rapidity. They are not a difficult shot. It would appear that these birds migrate from the Himalayah mountains in October—driven from that land of perpetual frost and snow to find food in a less rigorous clime, for it has been observed by many excellent sportsmen that they are remarkably listless in snowy weather. Towards March again, they invariably quit the Neilgherries to seek a colder climate. The arrival and departure of this bird is seldom witnessed; unerring instinct points out the necessity of secrecy, and from this cause we are still much in the dark in regard to that most interesting part of natural history:

* Their usual weight is nine ounces, but D. Macdougall, Esq. a keen sportsman, has frequently shot them weighing eleven.

even the common snipe (*scolopax gallinago*) seems to involve much mystery as to its place of destination. In England it is seen all the year round; in fact, it only flits from one misty bog or marsh to another, without entirely leaving that country. There are two kinds of hares found here—one of a brown colour; another, gray,—resembling in appearance the wild rabbit, but larger: in flavour it is fully equal, if not superior to the English. Farther inward, remote from the abodes of man, the Neilgherry deer is scattered, and are occasionally brought in by the Burghers. Their colour is red, and so wary are they, that it is next to impossible to get near them: if in snuffing the air they find it tainted, off they fly in a moment, with a speed almost inconceivable. In fact, I never knew of one being shot by any gentleman during my residence on the hills.

Although there are so many kinds of game about the country, nothing of the sort is to be had in the bazar, which is shamefully supplied, and infamously conducted. It exhibits so mean an appearance when contrasted with the markets in other parts of

India, where the influx of the multitude is always great; that one is led to imagine—either a close monopoly exists—or, beyond the “select few,” none are permitted to bring up their goods for sale; indeed it is notorious, that the shopkeepers in order to enjoy their monopoly to the fullest extent, take especial care to prevent all venders of supplies approaching the crest of these mountains. They descend, make their own bargains, and return to demand their accustomed prices. As to the poorer classes of inhabitants, they all look back to the period when Lieut. Colonel Crewe was Commissary; and associate it with days of plenty, as they *then* purchased precisely double the quantity of grain and other necessities of life, to what they can now obtain. Talk to the Chowdry about the Nerruck, for example—When will a supply of rice arrive? I don’t know—What is the price of grain? I don’t know—Will no poultry be brought up for sale this week? I don’t know.—In short, he knows nothing at all about the matter, except the sums he himself receives.

In my travels, I have found the French and

Russian Police perfect;* the Persian and Turkish police efficient;—the Bombay police vigilant;—but the Neilgherry police—(*horresco referens*)—successfully represses every complaint by forcing on us the wretched “twaddle,” that as the natives are so bad, it is impossible to enforce the regulations. The consequence of such a denunciation is most vexatious. It leads to acts of the most daring description, and is in fact an incentive to aggressions of every kind. It can be tolerated in some measure, when for insolence a menial receives speedy chastisement; but it is really quite sickening when things come to such a pass, that one cannot pay a morning visit without

* If a Russian Police could be introduced into Ootakamund for a month or two, I doubt not that a most salutiferous effect would be produced. I see no objection to such a measure, for after all there is little difference between some of our own ordinances, and those of our northern friends the Russians, with whom “political humbug” rages under the control of a machinery impervious to the public eye.—If a Russian officer travels from Petersburg to Moscow, he must take out a passport from the Police office—and if a Company’s officer passes through any portion of the Madras territories, he must do the same, or run the risk of being detained until he can procure one. I think it very questionable whether the “insolence of office” prevails more in the one, than the other country. Of course, there are exceptions, *sed raris avis, &c.*

being robbed by those whose duty it is to guard your house and property—to say nothing of sheep-stealing, potatoe-plucking*, and cottage-plundering—these little foibles are done in so genteel a manner that they only give *celat* to the actors, who appear to think that such proceedings are the inevitable consequences of their calling, and that the axiom “*Il faut vivre*” is a very compulsory one in Ootakamund. It is notorious that this is the case to a great extent. The inefficiency of the Police must of course be attributed to those who are invested with the power of punishment, but who on the contrary decline acting either through fear, or imbecility. If your servant robs you, they say “discharge him”—if he absconds, you are called upon to pay his wages in full, and afterwards to complain of his ill-conduct. He, having possessed himself of the needful, takes especial care to be on the high road to Bangalore, when you are

* I do not exaggerate when I assert that not five gardens escaped during my stay and I heard Col. Crewe himself say, that a friend at Trichnapoly had informed him his own vegetables were daily to be had in the bazar at that station—and in great plenty. I need not add that the Colonel's table was poorly supplied in consequence.

looking for him about the bazar. There is in fact no adequate protection for property, no tribunal where redress can be afforded in proportion to the injury inflicted. The master of Police, by a singular confusion of ideas on these matters, is generally the supreme judge;—the law which has been framed to determine the limit of his power is far too restricted—and should he chance to be one of many “composing the beggarly account of empty heads,” it resolves itself into a dead letter.

But a word or two by way of illustrating the proceedings of that “caput insanabile” of the N***** P*****. A gentleman of my acquaintance applied to him for redress in consequence of some misconduct on the part of his servant; but to his surprise it was communicated to him that as he was not a military man, no cognizance could be taken of his complaint, and that he must appeal to the Magistrate of the district who resides at Calicut, full one hundred and sixty miles distant, and who never (as I understand) visits this place for the administration of justice. Now, admitting that the Police acted up to their instruc-

tions, I am convinced that had this very delinquent been the *accuser*, a fine, or some such punishment would instantly have been levied upon his master. Thus, it is, that menials are let loose upon the society of Ootakamund, to repeat their depredations ad libitum: for whenever an offender escapes punishment, the master's house rarely escapes pillage. It is of the utmost importance as regards visitors to the Neilgherry Hills, that the administration of justice should be facilitated, and that it should be relieved of every superfluous obstacle: and as the orders the Court of Directors are so strict in securing the "*innocent and inoffensive natives*" (according to parliamentary phraseology) against ill-usage; surely Englishmen should have the same protection whenever they may stand in need of it.*

House rent is ruinous at Ootakamund—but some persons reside in their own houses, which is by far the most reasonable plan if they intend remaining

* It is with peculiar pleasure, and only strict justice that I do thus publicly record the very efficient manner, in which the police duties were conducted by Lieutenant C. F. Le Hardy—a young officer of great promise. I appeal to the residents of Ootakamund, whether his removal to Bellary, is not a source of real regret to them all.

for any length of time. The only dwellings suited to the climate, are unsuited to the means of nine tenths of those who visit these hills. The rent varies from one hundred and fifty, to two hundred rupees per mensem, and it is generally understood that the house is let on a lease of six months at least. A few cottages are often available at a monthly rent which fluctuates from fifty to a hundred rupees: but these dwellings are invariably so damp, as to be scarcely habitable. As however, so few of the larger, and more expensive ones have been in occupation for the last year or two—I doubt not but the rents must soon fall very considerably. Some time ago it was customary to saddle the unfortunate tenant with what they call “fire-risk,” which was no joke when it is remembered that most of the houses and even some of the adjoining kitchens are thatched: but it is surprising so few accidents occur. We, however, were burnt out of a cottage during the night, but as no agreement whatever had been entered into—happily escaped the penalty, which is usually a forfeiture of six or eight months rent. In speaking of the

houses, I must not omit to add, that in them all the fleas (*pulex irritans*) swarm to a degree unequalled, perhaps, in any country of the world—not excepting Northern Persia, where I had hitherto considered the finest breeds to exist. *There*, however, it is possible to keep them at bay, by a certain species of grass peculiar to that country, and well known to all the natives:—but *here*, no such “sacred grass” exists, although the people speak of the wild caper, and a root which when pounded, and dissolved in water, scares them away. I have often tried it without the slightest degree of success. The most seasoned of the natives even, suffer from them in some measure, but their flesh does not swell much. They are extremely greedy, and if the body of one that is sucking, is cut in half, it still appears to suck, and the blood flows from where it was severed in two. Night and day they are equally annoying:—it is in vain to lie down at any prescribed hour, for unless the house is cleaner than the Madras servants will ever keep it—little sleep can be obtained, and in the morning the face is often rendered frightful to look at, and the limbs

covered with blood. As Captain Harkness in his account of these hills, lays such a stress upon the absence of the musquito and white ant (two great pests I admit), he ought at the same time to have remembered that there is no law of nature which prevents the voracious flea from approaching the crest of the Neilgherry mountains. I have often fancied that those persons invariably suffered most from the musquito, who were least temperate in their diet, and that the water drinkers (a rare species in this country) were exempted from their attacks. This idea, however, does not hold good in reference to the assaults of the unwearied flea—there is nothing for it but to submit.

Our misfortune in being unhoused, was a source of great regret to me, for I lost several good geological specimens which I had collected about the surrounding country. These consisted chiefly of granite, gneiss, crystallized quartz, bloodstone, greenstone, pudding stone, indurated clay, &c. &c.

In regard to the gold which has been found scattered throughout the soil of the valleys, or contained in the deposits of mountain torrents—I should

say (judging from the specimens which I have seen) that it would never pay the expenses of extricating it from the ore, either by amalgamation, or by smelting. Great quantities of this precious metal have lately been found by Lieutenant Nicolson of the Madras Infantry, in the neighbourhood of the shafts which were sunk by Tippoo Sultaun near Neelamboor;* and it was once supposed that a rich lode had been discovered in the precipitous

* I have just heard that after Lieutenant Nicolson had extracted a considerable quantity of gold, Mr. Clementson, the principal collector of the district, (for reasons best known to himself) declared to his employers that this clever young officer was *mad*—and he was speedily ordered to rejoin his regiment! Unfortunately, there is a class of *pretenders* in various departments of the service, who are obstinately reluctant to acknowledge merit where it exists; and who titter, “*Eh eh!*” and point the finger whenever any one endeavours to start out of their ranks, even for the purpose of doing them, or the Government, good. One would almost suppose that the first attempt by an individual to do a clever action, is felt as a personal insult by all the rest, or as a design to do them some injury. “For *him* to set himself up! what is he, forsooth? a fellow not able to do so and so—a forward fool!” Or, perhaps, “Poor creature—led away by vanity, he has published a book,—an awful piece of trash, *of course*—he is much to be pitied for exposing himself in such a way. Silly young man!” or, possibly,—“Great vapouring fellow! What could put it into his head that he could astonish the natives—more fit for a coolie than any thing else; put him into the treadmill, he would have strength enough to continue turning it: but for a fellow like that to pretend to do so and so—he ought to be sent to the lunatic asylum!”

sides of Dodabetta. Major Ross of the Madras Engineers possesses some good specimens of the ore, which is contained in embedded grains, but not rich; and Major Little of the Bombay European Regiment, who dug into the sides of this mountain at its western extremity, imagined that the ore was exuberant,* and that the difficulties which attend the removal of its treasure were comparatively few—but I conclude from the poor specimens he permitted me to examine, (they would not even have borne the expenses of raising) that he discovered his error—for, assuming he is a most skilful gold-finder, and that he had persevered in his labours; he must soon have found the difficulties so numerous that his progress would have been checked by all kinds of obstacles, and his ultimate success a matter of the greatest uncertainty. It is an old saying among miners, that the man who works a mine of gold, will certainly be ruined; while he, who opens one of copper, is sure to gain. The truth is, veins

* I examined the spot where he had been quarrying, and broke specimens from many different parts. The ore is mostly in union with sandstone and clay, and the soil is very retentive of moisture.

seldom become very prolific, at a less depth than one hundred and fifty feet at least—the upper parts being filled with various substances; chiefly the detritus of the surrounding hills: the same lode at various depths, and in passing through various strata, differs most materially in its contents.

Several Madras officers also, have reported that gold is to be found in considerable quantities all over the Neilgherry Hills, but more particularly at the base of the Khoondah ridges of mountain in the Wynaud district, washed down by the brooks, or nullas, which run in that direction. Now, as minute particles of this ore are sprinkled over most parts of India, so in many instances a few may combine by the law of aggregate attraction, and thus excite notice without any chemical procedure. But to infer from such a discovery, that “considerable quantities” of this precious metal must, as a matter of course, be found throughout the soil whence these brooks have chanced to convey golden sand, or even small fragments, would only lead to speculative adventure: for even in the richest regions of native gold, it has not unfrequently been

discovered that a rivulet had actually carried down what little ore originally existed in the mountains—and in the present case another weighty consideration remains—whether more gold may not be expended than procured in working a mine, if even virtually discovered? The scarcity of gold, the uncertainty of its extent in any given situation, and the consequent outlay of production, are circumstances which render mining speculations extremely hazardous. I suspect that the Government of Madras have well regarded these points, and have wisely abstained from making any sacrifices.

Dodabetta, or the great hill as its name implies, is the loftiest mountain on the Neilgherries. Its main height is 8757 feet, but standing on the verge of that sloping land which is itself elevated 7457—its actual height from its base to its summit is only 1300 feet, and on account of its warm latitude, is covered with perpetual verdure to its very summit. In ascending this mountain, a region of rich mould is observed; then a thin shallow bed of red argillaceous sand-stone running horizontally through

a deep clayey soil, succeeded by tracts of soft white earth in variable proportions, and often surmounted by a stratum of loam supporting occasional masses of primitive rock. A dark iron clay is frequently met with in the deep ravines between the loftier ridges, which has a rich loamy appearance; though in reality it is rather sterile, and so porous, that all water percolates through it to the *back bone*, or lowermost visible bed which is of gray granite:—and precisely the same ingredients characterize all the other hills which I have examined. The white earth which occurs so frequently and deeply, occupies extensive tracts of the valleys, and even forms the sides of many lofty hills. It appears fully equal to the best Devonshire clays, though I doubt whether it could be employed in the manufacture of porcelain; because after submitting it to a powerful heat, I found that it acquired a yellowish cream colour which no art can correct. This is doubtless the result of an intermixture of iron. We seldom find clays retaining a perfect whiteness after burning, and it is not improbable that this is the very cause why our

porcelains have not yet equalled those of Japan in lustre and whiteness. The granite is found in all shades of gray, from black to white; the most predominant being darkish gray. These colours, however, depend upon the felspar, and mica, and on the grawaucke which often accompanies the mica, and is with difficulty distinguished from it. Although this rock is invariably found below all the other strata; yet it frequently occurs edging out of the earth's surface on the highest points of these mountains. Rocks of an igneous origin—such as trap, gneiss, amygdaloid, (speckled) are also met with on the summits of many of the hills. The uniformity which obtained in rocks forming the crust of the globe, is very remarkable; and forms a striking contrast with the diversity prevailing in every other branch of natural history. In my rambles through Europe and Asia, which in two instances have extended to a distance of at least three thousand five hundred miles in a straight line from North to South, I have found both the animal and vegetable kingdom infinitely varied: but on examining the rocks of several stupendous

mountain ranges (the loftiest peak of all was Mount Elborus*)—the resemblance they bore to each other forcibly impressed itself upon my notice.

The ascent of Dodabetta is by no means difficult, and to climb it and return, is no overpowering morning's work. The scenery around the bottom is extremely picturesque. The prospect below, as at every new ascent, you look back on the valleys of Ootakamund, with its numerous knolls, scattered houses, and waving woods, is delicious. At such an elevation, and with on one side, at least, a comparatively open country, the prospect is necessarily extensive. The cultivated and inhabited scenery is on the West and South—on the East and North in the direction of Mysore, all is charming. The sides of the mountain often yawn into irregular rocky abysses, which present precipitous descents of several hundred feet. Behind, the prospect is filled up with imposing masses of mountain and ravine; and here and there some of the small Toda or Burgher villages, are distinctly seen through the intersecting valleys, which are spread far and wide to

* This celebrated mountain is at least 18,000 feet high.

the view as on a lively and most fascinating map. The *coup d'œil* is as lovely as the eye could wish to dwell upon. Amid such scenery, and an unclouded atmosphere; one is apt to be inspired by buoyant spirits, and to indulge in the aspiration of Campbell's wanderer—

"O that for me some home like this would smile!"

—and to imagine, in the excitement of the moment, that scenes like these must be the abodes of unintermitting health and happiness, and that *here*, "redolent of joy and youth," is to be found

"The thoughtless day, the easy night,
The spirits pure, the slumbers light,
That fly the approach of morn——"

The descent along the southern slope of the mountain, towards the Reverend Mr. Clow's dwelling, is more easy and gradual than on the opposite side. At every step richness of landscape, and fertility of soil rapidly increases:—hill and dale, wood and rivulet, follow each other in close succession—the wild rose blooms in profusion, and the rhododendron rears his crimson coronet above the over-hanging copses. The weak point in the pic-

written with the sole view of enticing the Indian community to these hills, and as he well knew—(who does not) that in this country a man's abilities are always estimated by his loquacity; he has spun out his letters until they produced nothing but "fly-bane and a cobweb"*—indeed they appear the substance which was shadowed forth by Swift in his *Tale of a Tub*—"writ, rallied, rhymed, sung, and said—nothing." No false delicacy ought to deter a man who has it in his power, from exposing the gross misrepresentations of an interested person, whose descriptions cannot fail to make a considerable impression upon the public, unless they are unequivocally contradicted.

Now, what will be the surprise and disappointment of my readers, when I inform them that, impartially speaking, Mr. Hough's Neilgherry Windermere, is scarcely worth the trouble that has been taken by its formation,—to say nothing of the great outlay it must have occasioned; and as to the road that encircles this pool of water—I can only add, that it winds through scenery of the

* "The Battle of the Books."

most monotonous description; for although the gently swelling hills which arise from its margin are clothed in verdure—yet, (with the exception of a few thistles, and young willows on its eastern extremity) you look in vain into their green recesses for one single tree or shrub. It must, however, be admitted, that the Khoondah ridge of hills, which form a semicircular range of eminences on the South and West—and shelve down upon the distant horizon in various graceful shapes, have an alpine wildness, and relieve the eye by their variety of form and covering—

“ All that expands the spirit
Gather around these summits.”

They are concluded at an elevation a little above 8000 feet, and when the clear sunshine settles upon the head of Gulikul, which rears its irregular, and craggy peak to the height of 8,580 feet above the sea;—there is a most superb view of Wynaud, and the coast of Malabar,—valleys and plains,—villages and hamlets,—forests and fields,—all terminated by the dark and boundless ocean—form a scene the most enchanting that can be conceived.

In a country so elevated and so diversified with lofty mountain, and hollow valley, it is not at all surprising that vegetation is both exuberant and varied, and that great choice of plants should be found. Hills and dales, woodlands and morasses, cannot fail to furnish forth a rich and ample flora. The deep valleys abound with *filices*, and the copses with *fungi*. To enumerate all the plants that have been discovered, would far exceed my limits; but a short list of some of the most rare, and the spots where they are to be found, may perhaps prove acceptable to the botanist.

Plants of the fern tribe, which in our own country grow close along the ground, shoot up here to the dimensions of trees. A tree of the genus—*Polypodium*, is to be found in the valleys between Ootakamund and the Koonoor ghaut, as also at Kotagherry, reaching to the height of thirty feet and upwards. It strikes us forcibly with its novelty and beauty, and forms the principal ornament of the Neilgherries; growing as luxuriantly upon them as in South America, where ferns like our common Brake, (*Pteris*) and Polypody, (*Polypo-*

dum) grow similar to the palms, and have a stem in the form of a column. When I was last in London (1829) a tree-fern (*Polypodium giganteum*) with a stem forty-five feet in height, and proportionately thick, was presented by the Court of Directors of the East India Company to the British Museum. This magnificent donation was brought home from Nipal by that indefatigable and able botanist Dr. Wallich.

In regard to this elegant tree, it is worthy of notice, that none of the ancient writers should speak of a tree-fern of this size, particularly as Megasthenes, Aristobulus, and Nearchus, mention among other wonders of the East—that “there are plants having leaves as large as a shield, a fig-tree that takes root at the end of its branches, and palms too high for the flight of an arrow to pass over.” Theophrastus, Dioscorides, and Pliny, however, do enumerate ten species of ferns, but none above three or four feet in height; and when they particularize a plant of this tribe which was brought home from India, and well known to many of their learned men—they make no remarks what-

and on dry hills, so that it is found both on the tops of the mountains, and in the deep morasses.

Duck-weed, (*Lemna minor*) Bog-moss (*Sphagnum palustre*) and purple comarum, or marsh-cinquefoil (*Comarum palustre*) so common in all the boggy parts of England, France, and Iceland, also grows in the marshes, together with grasses, (*graminæ*) rushes (*juncæ*) and other plants with a chaffy flower.

The whortleberry (*Vaccinium myrtillus*) skirts all the thick copses throughout these mountains, and appears to acquire a greater strength of growth here, than either in England, or Sweden. Groundsel (*senecio vulgaris*) so common in all our gardens at home, is to be seen in the grounds adjoining Stone-house,* which is at least 7,600 feet above the level of the ocean. As this plant is invariably found in the neighbourhood of all the private gardens on these hills; it is surmised by some able botanists, that the seed has been conveyed hither from Europe in boxes, and packages

* This bungalow has been erected at the expense of the Madras Government for the accommodation of sick Officers.

of plants along with the baggage of visitors—and thus disseminated over the hills. This is rendered extremely probable, from the fact, that even germs of plants have adhered to filtering stones on ship-board, and been scattered throughout the globe. The most remarkable instance of this kind is in regard to the *Adiantum* (*Capillus Veneris*) true-maiden hair—a plant which is found growing in the torrid as well as the frigid zone—in England, the West Indies, and the Island of Bourbon—and which has been commemorated by Hippocrates, Theophrastus, and Dioscorides.

Snake-gourd, (*Trichosanthus anguinis*) is most abundant in every part of the pass, from the convalescent station at Kotagherry, to the Pioneer encampment at Koonoor. Its lily white flowers are fringed in a delicate manner; and I am informed that it is very general throughout the southern Concan, where the poorer classes of inhabitants cultivate it extensively.

Amongst the forest productions, we find a gigantic creeper of a most singular appearance. It sometimes acquires the thickness of a man's thigh,

—twisted round the tallest trees, and shooting high above their tops. At other times three or four of them join tree and tree, and branch and branch together. Others, again, droop from considerable heights and take root as soon as their extremities touch the ground; while others, send out shoots in every direction, and recall to mind what travellers have so often called a “matted forest.”

In the woods grow also the *Eugenia Jambolina*, *Laurus Cinnamomum*, *Gmelina arborea*, *Michelia Kisopa*, *Ternstroemia*, *Vitex*, and *Rhododendron arboreum* (crimson flowered variety)—a most ornamental tree—they all attain so considerable a height as to be used in building houses, for coarse furniture, fuel, and other domestic purposes. Beneath these lie hid some of the *Daphnes*, *Lobelias*, *Ranunculusses*, *Lichenes*, &c. These last, together with *Polypodium* and *Aspidium*, cover the summits and sides of the loftiest hills—sometimes growing on the granitic rock, and sometimes reaching into the elevated valleys and ravines which engird the Khoondah mountains.

I purposely refrain from entering deeply into a

field so fertile in the productions of this branch of natural history; as Captain Thomas Best Jervis of the Bombay Engineers (an indefatigable follower of science) has penetrated into the depths of the forest, and collected upwards of three hundred specimens of plants.* I trust he will speedily publish a descriptive catalogue of them, as well as some notices on the language of the aboriginal inhabitants of these hills. I am not acquainted with any officer in our service, who is so able to do these subjects the justice they demand: for it is really deplorable to think how the history—and especially the natural history of the Neilgherry mountains, has been neglected by the officers serving under the Presidency of Madras, who have been so long stationed at, and in the neighbourhood of, Ootakamund. Those with whom I have conversed on this subject, appear to know about as much of its productions as they do of the fossil remains of Java

* Mr. Schmid, who is an able botanist, and a clever man, has during a three years residence on these mountains preserved perhaps, many thousand specimens: but as I conclude his labours are engaged for some European societies, I despair of seeing any published account of them here.

and Tibet—and others again, who are reported to have been pursuing scientific inquiries for the last three or four years, have not as yet collected materials enough to fill a single volume!* That this is only a fair estimate of their exertions, none can deny—it is therefore the more refreshing to meet with a man of such information as Captain Jervis; particularly in a country where little encouragement is held out. If an officer wishes to pursue any scientific investigations, and he consults with those whose duty it should be to encourage him in his labours—a reply the most disheartening is generally the result of such application. *I well remember* conversing on this subject with an officer of rank who had *the reputation* of being a liberal minded, and well informed man, when he wrinkled up his countenance like that of a game cock in wrath, and uttered a furious philippic against such discussions; remarking that my duty was only to study *his ora-*

* I must not however, forget to record the very accurate meteorological observations made here by my friends Messrs. Glen and Baikie—both zealous followers of science. I have reason to believe that the public will, ere long, be favoured with the researches of the latter medical officer in an extended form. He is fully competent to handle any subject with a master-pen.

cle—namely: the “ **Field Exercises and Evolutions**”—a work which I opine is universally admitted to be superlatively dry reading. Such instances, however, are perhaps fewer in the **Bombay Army** than throughout any service on the globe. Many officers in it are not only desirous of promoting the cause of science, but are eminently qualified for thoroughly investigating the productions of nature—and of those who have favoured the world with their learned researches, made during a long residence in this country, Colonel **Vans Kennedy** must be considered as affording a most brilliant example.

I can safely promise all botanists a rich harvest from the researches of Captain Jervis, and doubt not that even the “courses of vegetation,” have shared his usual penetration; for this is a subject of peculiar interest, and one which has often attracted my attention. In the year 1828, during my passage through **Persia**, I observed plants growing at the foot of **Mount Ararat**, which are to be found in **Armenia**, and **Georgia**,—on ascending a little higher, those of **France** and **Italy**,—above

them again, those of Sweden,—and still higher up, those of Lapland. I subsequently made similar observations on Mounts Caucasus, and Zagros, and other lofty ranges of Asia. Every botanist, every traveller indeed, who has attended to plants, has been led to observe them in their relations with the general, as well as local geography of the parts in which they grow. As a science, however, botanical geography is but of the other day. Linnaeus has left us several papers elucidating particular points of this branch of natural history, and he has been followed by others : but the first important work which has appeared on this subject is that of the illustrious Humboldt—a work pre-eminent for the number of its discoveries, as for the judicious, and successful application of them to the laws of natural philosophy. It is from this philosopher that we received the first chart constructed on the principle of accurate measurements of elevation and degrees of temperature, and of their joint influence upon vegetation. To analyze with accuracy the precise influence that the height of a place has over its vegetation, is, perhaps, one of the

most difficult operations in geographical botany; and in considering the subject in its general form, so many conflicting facts have presented themselves together, that I have found it impossible to draw any satisfactory conclusions from them. I hope, however, that the difficulties of the question will ere long be elucidated; and that we shall be made acquainted with the direct influence, or the exact share that elevation has in controlling the distribution of those plants which are to be met with on these mountains. Many of the plants which grow in the highest positions here, are also to be met with in Iceland, Spitzbergen, Nova Zembla, Lapland, Siberia, and Kamschatka;—and I have myself seen on these hills, under an ardent sunshine, plants, if not exactly of the same species with those of our own alpine phanerogamous ones, at least some that are analogous to them,—and several of the cryptogamous species precisely the same as our own. Linnæus has summed up these facts in an axiom—“The different kinds of plants show by their stations the perpendicular height of the earth.” Yet, how few have made any exact survey of

this interesting department of botanical geography.

The population of Ootakamund may be reckoned at between three and four thousand. The inhabitants, who have made the place a pandemonium, are an olla podrida of all nations. They are almost exclusively employed in providing for the *souls* and *bodies* of the English visitors, and live in wretched cottages covered with straw, which in a few instances are furnished with chimneys; but more generally, as is the prevalent custom throughout India, the smoke is allowed to make its exit by the door, or by a hole in one of the walls, or roof, which is literally glazed by the action of wood smoke! On entering one of these huts, when a fire is burning in one corner, the visitor runs some chance of being suffocated, as around and above him nothing is seen but a dense cloud of smoke. As soon as the wood is converted into charcoal, the smoke of course ceases, and the females of the family prepare their rice, their millet, and whatever else may be necessary; and also boil numerous pots of pepper water, without a copious draught of which heating beverage, no industrious man will

commence his day's labour. The same fire by which the victuals are cooked, also warms the hut; and when they have concluded their domestic employments, they lie down to sleep.

Of the origin and history of the aborigines of the Neilgherries, nothing positive is known. That they are of Asiatic origin, their habits, and customs are to me evident tokens; and judging from personal observations, rather than any ideal associations, I should say that they bear a closer resemblance—not to the *desert*, but to the *maritime* Arabs of Mesopotamia, both in face and form, than that of any other people with which we are acquainted. I am therefore rather inclined to regard them as originally from the shores of the Shut-ul-Arab; and as having become in the course of time a mixed race with those natives of the plains, many of whom located themselves in the hills, when the tide of Mussulman conquest swept multitudes of Hindoos into the deep recesses of the loftiest mountains throughout Hindustan. The result is a bold looking, fine race of men, retaining the broad open foreheads, dark piercing eyes, and glos-

sy jet black locks of the Arabs; together with statures above the medium standard, and forms compact and well made. Like the Arabs, too they are capable of undergoing great fatigue, and abstinence from food—cunning, lively, though great beggars,—revengeful and unforgiving. We may therefore dispense with the vain attempt to trace their origin back to the time when the ancient Romans visited Western India.*

I consider it superfluous to say much of their habits, peculiarities, and characteristics, as Captain Harkness has pursued a diligent inquiry into them. They are still established in small hamlets which generally rest either in valleys possessing considerable beauty, or on the slope of a knoll or eminence, with a few scattered copses waving around them. Each hut is surrounded by a low wall of unhewn granite, and is constructed in the rudest style, with thick rafters resting on the ground, and bending inward with a gradual inclination until they reach the height of about seven feet. These are generally wattled across with reeds, and plastered

* Vide Hough's dissertation on the Todas. *Pasaim*.

over with mud. The roof, which is semicircular, is formed of a sprinkling of turf and thatch, often so decayed as to be entirely fallen away, thereby exposing its inmates to the rude mercy of "every wind that blows;" and in no part whatever impervious to the storm. The thatch of some few is held on by straw ropes, but the interior of all are quite destitute of neatness or cleanliness, and the space within the stone wall so inartificially put together, being choked up with heaps of dirt and filth. The dimensions vary from twelve feet by eight, to fifteen feet by ten; and at one end a loop-hole rather than a door, finishes the picture, which on the whole produces a dreary effect upon the eye of a beholder. There is something too, in the wild murmurs of the wind upon these elevated spots as its current becomes broken, and as it whirls and eddies among the craggy openings, or sweeps through the woods and copses, that fills the mind with a peculiar sensation of melancholy—and in these situations, whenever I cast my eyes around, and upon the romantic but uncultivated aspect of these misty hills, beyond which nothing but hea-

ven was visible,—or watched the slow bending of the trees that rustled beside me—I thought, on comparing the features of the whole, that I had seldom before witnessed such finished pictures of solitude and desolation. No chimneys appear as you approach these dwellings to tell you whether they are inhabited; and it is not till you are near enough to perceive the smoke oozing through the chinks and crannies of the roof and walls, and wreathing itself in volumes from the door, that you can ascertain whether any aperture exists at all.

Their occupations are pastoral, and they treat the stranger with a degree of frankness unmingled with etiquette or ceremony. Their habits are not active, although they are remarkable for their strength and agility:—a fact rather unfavourable to the opinion of those who contend for the nutritive qualities of meat, and the negative virtues of a vegetable diet, for the Todas live almost exclusively upon roots, with some milk, ghee, and honey; and in feats of agility I would back them against any beef eater in England, and with every chance of winning my wager. Their wealth consists princi-

pally in their buffaloes, which appear noble animals when contrasted with those of the plains below, and whose numbers are immense: consequently, they are compelled to shift their stations so soon as the pasture becomes scarce. They have no dogs to watch their hamlets—a most singular circumstance, for in all my travels I never approached an encampment without being greeted by fine breeds of these quadrupeds—especially in Turkey and Persia, where a number of dogs are always on the alert to discover strangers, and to give timely notice of their approach; so that the women who are generally *en dishabille*, have an opportunity of effectually concealing themselves. Their children when about five or six years old, are not ill-looking, and their cheeks unlike the natives below, are chubby and rosy: their hair is long, and black, hanging over their brows, till smoothed back by the hand to disclose their still blacker eyes. Their women when about fifteen are fair and handsome, but they soon lose their good looks, and become as ugly as they were pretty. Their eyes are large and black; their noses straight and well proportion-

ed; their lips thin and small; and their teeth white. A Toda girl is very good looking, but nothing can exceed the disgusting appearance of the old women. They never conceal themselves like those of their neighbours of the plains, nor do they even evince the least timidity at the approach of a visitor. On the contrary, they appear rather to court his presence; and have no shyness or reserve: they even frequently accost you in confidence, and display much curiosity by the examination of a dress so novel to them. In speaking of the Arab women, Niebuhr somewhere observes, that so long as they conceal the face, they care not how much they expose the rest of the person, -and I myself have seen them washing clothes on the banks of the Euphrates in perfect nudity; and when surprised, have covered their faces, with their hands, disregarding all other exposure. If report speaks true, the Toda women are nothing loath to exhibit both face and form: and as their clothes are filthy to a degree—they perhaps feel more comfortable without them. They never change their garments, and seldom perform any ablutions: in fact, the

apparel of both sexes is permitted to fall to pieces on their bodies. The women also, anoint themselves with fetid oil, and their hair is divided into two long ringlets, and suffered to grow to a considerable length. They do not practise circumcision, but depilation is very common amongst them—much after the manner of the Arabs, with whom there are women who live by the performance of it.

Their marriages are made with little formality. When a Toda marries, he merely gives a buffalo, or two, for his wife, and conveys her home without further ceremony. Her subsequent occupations are hard when compared with the tasks that are imposed on females in civilized society, but they are no more than her fair share, under every consideration and due allowance of the hardships attendant on savage life; therefore, they are not only voluntarily but cheerfully submitted to. Marriages, although contracted for life, are not binding; at least it is well understood on both sides, that the parties will not reside any longer together, than they shall be pleased with each other. It is also understood (for the duties incumbent on each party, are well

known to both) that the husband is to provide the dwelling house, and to furnish some bowls, and other vessels for housekeeping. The woman has some such articles of coarse crockery which she brings with her. The husband, as head of the family, considers himself bound to support it by his exertions—the woman, as his helpmate takes upon herself various domestic labours, and is well satisfied that her husband with his buffaloes, can well maintain his family in any place where pasturage is to be found. But by far the most extraordinary anomaly amongst them is an allowed plurality of *husbands*. If two or more brothers compose the family circle—all share the woman's favors alike: she is even permitted to have a *cicisbeo* besides, with whose privileges none are allowed to interfere. It is also very remarkable, that, generally speaking, the men prefer widows to virgins—and as to female virtue, it is neither prized, nor known. In short, avarice prevails amongst the men, and licentiousness amongst the women. The Italian saying "*Uomini senza onore, e donne senza vergogna*"—may be aptly applied to them all.

Of their diseases, perhaps syphilis is the most common. Their villages are also frequently visited by the small pox, measles, typhus, scarlet-fever,* hooping-cough, and croup; but intermittents, and remittents are unknown. I have been told that some of them are able to cure bruises by simple applications of the roots of plants; with the properties of which they are said to be well acquainted. But there are a set of professional impostors, who, availing themselves of the superstitions of the people, pretend to be possessed of supernatural healing powers. As the natives in general believe in sorcery, and ascribe many natural disorders to the arts of sorcerers; this class of practitioners pretend to be skilled in the occult science of counteracting enchantments, and expelling the devil, who too often possess many of our native acquaintances. These men, like the Todas, are acquainted with the properties of plants, roots, and other remedies;

* Cholera Morbus has also been known here, although a late writer on this direful malady boldly asserts—"that it has never been found on any high, or dry land; and that, like the scarlet fever, it has never passed the limit of 3,000 feet above the level of the sea!"

and differ only from them by the skill and impudence of their impositions. When they have succeeded in persuading an unfortunate and credulous patient that his complaint is one of extreme danger, they bargain for the present, which is according to the means of the donor, but always to the amount of several rupees. These quacks when in the exercise of their functions, are stark naked; and being besmeared with paint and filth, exhibit a most frightful sight.

Although the Todas are reported to have practised infanticide, it would appear that the abomination has long since ceased; and that their present numbers are computed at one thousand, including children of both sexes. Indeed, I can say with certainty that the population is on the increase; this may be owing to the blessings of vaccination, as well as good medical aid whenever applied for. But although the population keeps its maximum, it is evident that the aborigines are making no advances towards civilization. In fact, they continue stationary in a state of the rudest barbarism. The tendency to improvement—a tendency that has

been thought more, perhaps, than any other to distinguish man from the lower animals, seems to be totally wanting in them. The lofty ridges they inhabit may be traced from end to end, and few vestiges discovered that marks the hand of man. They have never been repelled nor exasperated by Europeans—nor have they ever experienced violence, or encroachment on their homes. On the contrary, pious missionaries have been among them, and have endeavoured to instruct them. All however, appears unavailing—and it seems certain that the Todas, like their buffaloes, are destined to disappear from the face of the earth along with the woods which alone afford them sustenance and shelter.

Of the general face of the Neilgherries, the preceding pages will, I hope, have afforded some notion. They may be shortly described as one mass of mountain, rising to the highest summits on the East and South—descending to a lower and gentler character on the West and North; and riven throughout with deep ravines and valleys, which slope down in all directions. The cultivation is confined to the scattered cottages, or to the bot-

toms of some of the secluded valleys, and occupies a very small portion of the whole surface. Wheat and barley form the chief feature; and the produce of each, is about thirty-fold that of the seed employed. The hamlets are commonly at the outlet of a ravine; but when the bottom is fertile, and the surface permits, the huts are often scattered up a considerable extent of a valley. It is in the upper and wilder windings of these ravines that the more striking features of Neilgherry landscape are almost exclusively found. The mountains although steep and lofty are so massed together that they do not, except in a few instances, present that variety of summit and outline which forms the chief effect of such ranges; and were it otherwise, the narrowness of the ridge* would scarcely allow you to get far enough off to seize them in a proper point of view. The same circumstance rather diminishes the interest of the scenery in another respect. Ascending one of the craggy acclivities, facing either the North or West, the low country is at no great dis-

* The length of these mountains at an elevation of 5,500 feet is 40 miles from North to South, and their medium breadth at the same height about 14.

tance on both sides. We thus see the limits of the wilderness at once; and this map-like survey of it necessarily disturbs that illusion of incessant intricacy and untravelled extent which we love to encourage in our mountain or forest explorations. Nothing of the kind can possibly be finer or richer than the ravines and marshes themselves: the rich sloping acclivities of the hills that inclose them, and the dark green forests by which they are shadowed, give them a character peculiarly their own, and quite distinguishing from any similar scenes elsewhere. The other fine circumstance in these hills is the alternate succession of hill and dale, mountain and ravine, varying very considerably both in altitude and depth. They present for the most part a glossy aspect; and on the East—where the mountains rise to a considerable elevation, and the woods are at hand in the full spread of their aboriginal shade—the prospect discloses a succession of cliff and chasm, which in beauty of character, form no unfitting barrier to the Bhavani* which runs beneath them.

* The Moyar and Siroo sweep round the base of the Neilgherries, and meeting at the Northeast, the united streams flow under the appellative *Bhavani*.

The indigenous wood is all of the evergreen kind, in fact there is little other. The native flora of the Neilgherries, struck me as being extremely rich, and although the conical summits of some of the hills are nearly denuded, the whole of the valleys and ravines retain their shade, and are universally most luxuriant. They lower the temperature in a great degree, by arresting the progress of the clouds, and pouring into the atmosphere volumes of water dissolved into vapour. Frosts and winds do not penetrate into their recesses,—the sun seldom or never warms the earth they shade,—and the soil being formed partly by the falling of the leaves, branches, and stems of trees, and coated over by a thick bed of moss and underwood, is constantly in a state of moisture. Should these hills ever become densely populated, and the soil stripped of its luxuriant copses, the wind and sun would disperse the superabundant moisture, and render the atmosphere many degrees warmer. That this would be the result, no one can deny, and without adducing innumerable instances which history offers us, it is sufficient as an example to mention the

United States of America—indeed, the fact is admitted by all hands, that the felling of woods must occasion a very perceptible elevation in the temperature of the climate. But on the other hand, if ever the inhabitants should be permitted to clear the copses without reserve, the soil, bereft of the moisture requisite to the maintenance of vegetation, would be reduced to the most fearful sterility. The island of St. Jago was once watered by numerous springs, and covered with most luxuriant copses,—it now offers to our view dried up ravines, rocks bared of their mould, with a few patches of parched herbs, some stunted bushes, and succulent plants. Many other places are at this very moment threatened with the same awful sterility, and if the axe is not used with due discretion; these effects will inevitably be the result.

In fine—the Neilgherry mountains wear *not* an appearance of grandeur; but of calmness and beauty: and a stranger visiting these regions is led to expect in their aboriginal inhabitants, similar features of innocence and simplicity. But how great is his disappointment, when, instead of these, he finds

himself where filth, poverty, vermin, disease, and crime, are united in social bonds; and where female virtue has neither a habitation, or a name.

Although I have collected less information than others would have done, under similar circumstances; yet, I have not the unpleasing reflection of having observed nothing. I deeply regret that I possessed no pictorial powers of representation, for of all scenes none would better reward a painter who should journey hither through pure love of his art. A Claude and a Poussin would find ample scope for the pencil, and I feel convinced that the humblest disciple of these illustrious men who should visit the Neilgherry mountains, even for a few weeks, would readily confess when he quitted them, that it had been the most agreeable time he had ever spent.

APPENDIX. .

.

.

.

~

.

ROUTES TO THE NEILGHERRY HILLS.

We are indebted for the following, to the supplement to Capt. Glaser's Itinerary.

* An asterisk (*) prefixed to the name of a place, denotes it to be a usual halting place.

I. FROM CALICUT AND POONNEY, VIA PAULGHAT AND COIMBATORE.

Places, &c.	Distance between.		Remarks.
	M.	F.	
Calicut	0	0	Principal civil station, Malabar district, and a Military Post.
Beypoor, River . . .	3	4	Good upper roomed Bungalow; boats at the ferry.
*Perpenagarry, l. v. sea side	7	0	Cross another ferry: public Bungalow destroyed, but a Cutcherry cadjan building open for travellers: part of the road very heavy over sand hills.
Tannor, sea side . .	8	4	Cutwal's Cutchery open for travellers: road over deep sand.
*Pooda Angaddy, sea side	8	5	Good Bungalow two miles beyond the village cross a ferry. Here begins a wide carriage road; with trees on each side from the coast at Coimbatore.
*Tirtulla, s. v. and bazar Ponnany river	17	5	Cross a ferry and suspension Bridge.
*Wanee Kolan . . .	18	0	Public Bungalow.
*Jackaddy s. v. bazar	8	5	Public Bungalow.

Places, &c.	Distance between.		Remarks.
	M.	F.	
Palghatcutcherry, Fort and Military Post	15	4	Cutchery open to travellers, and two private Bungalows belonging to Bislam Sing, a revenue farmer, to whom application should be made if they are required. A furniture manufactory in the town; Palankeen bearers and carriage for baggage procurable, the last in abundance. Hence to Coimbatoor pass through a jungle extending above twenty miles. A Military guard is stationed to furnish protection to travellers against wild elephants through the Jungle.
*Walliar	15	0	A Dhurmsala for travellers: halting place in the Jungle on the bank of the river. Here ends the Malabar District.
*Coimbatoor	15	0	Coimbatoor is a large town, and principal civil station of the District commencing at Walliar: public Bungalow, small, but there is an old place in decay unoccupied, at a short distance from the town, and the Collector's Cutcherry is open to travellers on application.
Goodaloor, public Bungalow	11	0	Palankeen bearers procurable, and coolies and bullocks in abundance to go as far as Ootakamund. The bearers also commonly as far as Kottagherry.

Places, &c.	Distance between.		Remarks.
	M.	F.	
*Bellady Chootram.	8	0	Good bread and supplies of all kinds in this town. several good villages between Coimbatore and Shrimogary, where the travellers can find shelter.
*Shrimogary, foot of Neilgherry Hills.	6	0	At Shrimogary is a good Bungalow with public servants who provide meals for travellers; cross a ferry at the village to the Bungalow.
Cross Bhowany			
Nulla	1	0	
Koonjapana Tappal Choultry	2	3	Bread procurable here and most supplies. Bullocks and Coolies in small numbers on application to the Cutwal, and there is a Conicopoly under the Hill Commandant to manage the distribution of the bearers and coolies belonging to the public establishment. The ascent of the pass begins here.
Cross Bhowany Nullah	1	0	The country is open and free from Jungle.
Cross 3 Nullahs to the Tappal Choultry and Bungalow at Tulliapullum	2	2	
Cross Nullah to and Jackanary top of the pass	3	5	Tappal post and an open shed: ascent to this place eight hours in a Palanquin. Thermometer falls about 30° and the cold felt excessively.
Kotagerry, Bungalow	1	1	Several private houses and some small shops, but no public Bungalow. At Wimhully two miles off there is a house belonging to the Missionary establishment, occasionally opened to travellers, on application to the Collector residing at Coimbatore. The road level to a short distance beyond a
Pondawah Culpatty	2	0	
Oorasola	1	1	
Ralia, a house	2	3	
Cross Nullah to Hoonatala	1	1	
Cr. N. to Cumbutty	1	5	
Cr. N. to Tappal Choultry at Toomanutty	1	1	

Places, &c.	Distance between.		Remarks.
	M.	F.	
Ootakamund	5	5	house called Ralia, and then gradually ascends most part of the way over the great Dodabari mountain to Ootakamund.
II. FROM CANNANORE AND TELLICHERRY THROUGH WYNAUD.			
Cannanore, stages .	—	—	Military Head Quarters of the District made road from thence to Manantoddy and as far as Sultan's battery.
Corally	9	0	Public Bungalow
Cotaperamba	12	0	Three Ditto: small fort, good Bazar.
Canote	8	4	One Ditto: Bazar situated in a valley near the Ghats.
Neddy Brinjai, foot of the Peria Ghat	10	4	Small shed for travellers, good bazar situated in a close jungle at the foot of the pass extending up the Ghat, bad halting place.
Peria, on the top of the Ghat	7	2	Public Bungalow, and small Bazar situated three miles on the top of the Ghat in an open country. The ascent about 4½ miles, very easy and well made road. Enter the Wynaud district.
Manantoddy	16	1	Public Bungalow: Military Post: good Bazar: coolies procurable as far as this place, from the coast, and then relieved at every stage.
Panoor Cottah . . .	9	0	Small public Bungalow, very

Places, &c.	Distance between.		Remarks.
	M.	F.	
			poor Bazar and much Jungle; bad halting place, the cattle road as inserted, very good there is a made road by which the distance is 12 miles.
Sultaun's Battery . .	15	6	Two public Bungalows: small Fort: good bazar: Military road branches off towards Mysore, more open country and good halting place.
Nellialam	15	0	Two public Bungalows. no Bazar. no coolies procurable.
Goodaloor, foot of the Ghat	14	0	One good Bungalow: Bazar: road hilly and bad, situated at the foot of the Neilgherry Hills in a thick jungle. Bearers and coolies must be procured from the hills at this place.
Pykarta, river; Ferry	11	0	A very poor small Bungalow for travellers about four miles from the top of the Ghat: ascent about six miles and easy, no bazar or village. Milk is procurable. There are fords in the river and also a ferry boat.
Ootakamund	11	0	Good road and generally level.
III. FROM CALCUTTA VIA BEYPOOR AND THE CARACODE GHAT. Calcutta to Oorookadaw ferry, Beypoor river	12	0	
Podden Angaddi . .	5	0	The road from Oorookadawa continues along the North bank of the river till oppo-

Places, &c.	Distance between.		
	M.	F.	
Cross Beypoor river to Arracotta . . .	7	0	<p>site Arracotta on the South bank.</p> <p>This is a large Maplah town with plenty of accommodation for travellers: in the rains this road is not practicable, and it is necessary to cross the river at Mammaly ferry six miles from Calicut, and thence by Cundooty and Mangerry, in all thirty miles, to Arracotta. By water in an open boat it is from ten to twelve hours passage from the Mainaly ferry. Canoes numerous on the river.</p>
Erroaan Angaddi .	10	0	<p>Maplah town: good accommodation procurable. Road through jungle in many parts, cross 2 Nullahs. By water five hours in a light row boat.</p>
Mombat	6	0	<p>Large Maplah town: accommodation as before; Mr. Baber came by water as far as this place in 1827, the neighbourhood infested by wild elephants.</p>
Nellemboor	5	4	<p>Large Maplah town: traveller's Bungalow, road open through part of the jungle, which extends half the distance: wild elephants abound and are very destructive. Cross the Nickoon river by ferry boat.</p>
Oodakerra Kettam, four hours	8	0	<p>A large Native house. Cross two rivers by ferry boats. Teak forest great part of the road, and several marsh-</p>

vii

Places, &c.	Distance between.		Remarks.
	M.	F.	
Caracoda Eddum, foot of the Ghat, three hours . . .	6	0	es. Boats go up the Bey- poor river to this place most part of the year.
Nadkurry, four hours top of the Cara- code pass	8	0	A miserable farm house with a few Pariah's Huts about it. Road through teak fo- rests. The ascent of the pass begins near this.
Davala Cottah, .	4	0	Road through the jungle open- ed for Mr. Baber in 1823. The pass much improved since that period; a direct road from Nadkarry has also been cut to Coodeloor.
Coodelore foot of the hills	10	0	There is a considerable town, called Ottakail Kuramba half a mile from Davala Cottah, which has accom- modation for Travellers.
Bottom of the Ghat .	1	2	Public Bungalow.
Top of the Ghat .	3	1	
Pyakerry, river and Bungalow	6	6	
Towdakerry mundy	3	6	
Ootakamund	6	5	
Total miles . .	108	4	N.B. The distances are chief- ly estimated.

**IV. FROM THE BUNGALOW
NEAR STREEMOGAT (ON
THE ROUTE FROM COIM-
BATORE TO SERINGAPA-
TAM) TO OOTACAMUND.**

	M.	F.
Nullah at the begin- ning of the Ghat .	1	0
Coonjapana	3	0
Tappal Choultry .	0	3
Coonjapana	0	3
Seerul Nullah . . .	0	6
Bungalow	0	1
Vaulpullem Nullah.	0	5
Pareeyapullem Nul- lah	0	6
* Nullah Tappal Choultry and Bun- galow Tuliapul- lem	0	7
Nullah	3	1
* Juckanary	0	4
Kotagherry Bunga- low	1	1
Pondava Culputty .	2	0
Oorasola	1	1
* Raliiah	2	3
Cross a Nullah to Hoonnatata . . .	1	1
Nullah	1	0
Cumbutty	0	5
Muncully	0	6
Cross a Nullah to Toommanutty and Tappal Choul- try	0	3
Ootacamund	5	5
Total . .	27	5

**V. FROM OOTACAMUND TO
SOONDAPUTTY, VIA KEY-
LOOR.**

	M.	F.
Bund of the Tank . .	2	3

	M.	F.
Cross a Nullah . . .	4	0
Cullaycoray	0	2
Cross a Nullah to Vaulacolay	2	0
Cross a Nullah . . .	1	6
Cross a Nullah . . .	0	2
* Keyloor	2	2
A Bungalow	0	4
Munjacumba	0	6
Soondacares Bunga- low	2	6
Beginning of the Ghat	0	3
Bottom of the Ghat .	5	1
Cross the Moolly ri- ver	0	3
Soondaputty	2	0
Bowanny River . . .	0	3
* Soondaputty	0	1
Total . .	25	1

**VI. FROM OOTACAMUND TO
MUNGALUM ON THE ROAD
TO SERINGAPATAM.**

	M.	F.
Audutty	3	4
Davahrey	0	3
Davahney	9	4
Bellykuland Bunga- low	2	2
To the beginning of the Ghat	0	2
Bottom of the Ghat .	2	5
Carmolah river . . .	0	7
* Segoor and Choultry Panganully Nullah .	1	0
Nelleytahkudday Nullah	1	6
Sembanah tum . . .	0	5
Davaroy puttunam .	3	0
Marray Pagoda . . .	0	3
* Tippacodah River and Bungalow . . .	3	7

	M.	F.		M.	F.
Cullar River	3	1	Allatoray	2	3
Kunneygiunneypoor-			Kunnyampollium . .	1	3
ah	5	5	Tuttapallum Nullah	0	7
• Mungalum and Juc-			Tallerpollium . . .	2	1
kahelly	1	1	Conday River . . .	0	7
Total	31	4	• Uddaverum, two		
			Bungalows and		
VII. FROM OOTACAMUND TO			Choultry	8	7
GOOVALLOOR.			To the beginning of		
Towdakerryundy. .	6	5	the Ghat	1	0
• Pyakerra River and			To the top of the		
Bungalow	3	6	Ghat	3	0
To the beginning of			Tappal Choultry . .	0	3
the Ghat	6	6	• Tuttapullum and		
To the bottom of the			Bungalow	3	4
Ghat	3	1	Juckanerry	3	5
• Goodalloor and Bun-			Koterey and Bunga-		
galow	1	2	low	1	3
Total	21	4	Peddoah	2	0
			• Teatrip and Bunga-		
VIII. FROM DAINAGENCOT-			low	3	1
TA (ON THE ROAD FROM			Oonetullay	1	1
COIMBATOUR TO SERIN-			Cumbutty	1	0
GAPATAM) TO OOTACA-			Dumbutty	1	1
MUNDI.			Putty	1	6
			• Ootacamund	3	7
			Total	38	2

**IX. ROUTE VIA THE PERIA PASS AND MANANTODDY, IN THE
WYNAAD DISTRICT.**

Names of Stages.	Distances.	In what District.
From Tellicherry to Cotaparamba	8	} Cotiate.
Canate	8	
Neddumbrinjal	10	
Pass	4	
Peria Village	3	} Wynaad.
Manantoddy	15	
Panorata Cata	12	
Ganapady Mattum alias Sultan's Battery	14	
Nelliala	16	} Nambalesta.
Koodaloor	12	
Neddwettum Pass	4	
Paikara River	8	
Ootakamund	10	} Neilgherries.
Total	124	

**X. ROUTE VIA THE TAMBERCHERY
PASS.**

From Calicut to Tamberchery	20	} Calicut.
Poodoopady	10	
Pass	6	
Lucky kota	2	
Kulpetty	12	} Wynaad.
Pora kaddy	10	
Gunapathy Wattom, alias Sultan's Battery	10	
Nelliala	16	
Koodaloor	12	} Nambolacotta.
Nediwettum Pass	4	
Paikara River	8	
Ootakamund	10	
Total	120	} Neilgherries.

ROUTE VIA NELLUMBOOR, AND THE CARCOOR PASS.

Names of Stages.	Distances.	In what District.
From Calicut to Condotty	18	Ernad.
Arincotta	12	
Eddawana Bazar	12½	
Nambal Bazar	4	Nellumboor.
Nellumboor	5½	
Eddakesa	9	
Carrote Pagoda	6	Nambolacotta.
Top of the Pass to Nambolacotta District	6	
Poolianparah	6	
Koodaloor	4	Neilgherries.
Nediwettum Pass	4	
Pankara River	8	
Ootakamund	10	
Total	106	
XI. ROUTE FROM CALICUT TO THE NEILGHERRY HILLS, VIA MANAR GAT AND THE KOORDAH MOUNTAINS.		
From Calicut to Condotty	18	Ernad.
Manserry	12½	
Angadypaar	14½	
Tachanat Karah	11½	Velatre.
Mananghant Bazar	8	
Top of the Pass called Attapady dwala, or table land of the Attapady Mountains	10	
Cheroowancy River	10	Kondanad Hills in the Neilgherries under the Collector of Malabar.
Manara River	7	
Fort of the Waddoga Malla	3	
Top of ditto	7	Neilgherries under the Collector of Coimbatore.
Munsakomboo Bungalow	4	
Wakala	5	
Ootakamund	12	
Total	125½	

T. H. BAKER.

N. R. By a late arrangement of the Government of Fort St. George, the whole of the Neilgherries have been apportioned to Malabar.

* The distance may be performed by water as far as Trombat.

A DIARY

OF THE

TEMPERATURE OF THE WEATHER AT OOTAKAMUND, NEILGHERRY MOUNTAINS;

Commencing July 16, 1833, and continued till Jan. 10, 1834.

* * The Thermometer was suspended in the air, in a southwestern aspect, about seven feet from the ground, and a foot from the wall.

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
July 18	7	59	Cloudy and hazy, with violent gusts of wind, and occasional showers throughout the whole day.
	12	60½	
	2	61	
19	7	57	The hills covered with dense clouds, and rain from the Southwest, accompanied by wind.
	7	58½	
	12	62	
20	8	56	Dense and heavy clouds hovering around the hills. Passing showers.
	7	58	
	12	60	
21	2	61	Heavy clouds surcharged with rain.
	7	57	
	6	55	
22	12	60	Misty and cloudy. No rain.
	8	59	
	6	55	
23	12	59	Clear towards the Southwest. Pleasant morning. Serene.
	6	56½	
	6	58	
24	12	63	Fine clear evening. Clear morning with fresh breezes. Dull afternoon.
	6	55	
	8	56	
25	12	62	Cloudy with strong southwesterly [wind]. Fine.
	8	57½	
	6	54	
26	12	61½	Rainy morning. Cloudy. Hazy and cloudy.
	6	58	
	8	57	
	12	63½	
	8	55	

XIII

Day of the month.	Time of day	Height of Thermometer.	Remarks on the Weather.
July 27	8	55½	Morning sunshine.
	12	62	Fair day and warm.
	8	54	Clear evening.
	8	59	Dull, with heavy clouds.
	12	62	Fine, though cloudy.
	8	58½	Clear evening, and calm.
	8	58	Clear, with strong southwesterly wind.
	12	64½	Fine.
	8	56	Hazy and cloudy.
	8	59	Mild morning.
30	12	64	Warm, with sunshine.
	8	56	Dull, but fair.
	8	58	Gray morning.
	12	62	Mild and fair. Cloudy to the Southwest.
31	8	56	Mild evening.
	8	57	Pleasant morning.
Aug. 1	12	63	Fine.
	8	54	Bright evening.
2	8	58	Clear.
	12	64	Clearing day.
3	8	56	Dark heavy clouds to the Northeast.
	8	57½	Cloudy, but no rain.
	12	65	Bright day.
	8	56	
4	8	58	Fair, with sunshine.
	12	64	Calm and cloudy.
	8	57	Cloudy night.
5	8	57	Clear morning.
	12	64	Sunshine and warm.
	8	49	Clear night. Cold.
6	8	57	Fair.
	12	69	Fair.
	8	52	Fine night.
7	8	56	
	12	64	Fine throughout.
8	8	54	
	8	58	
	12	64	As yesterday.
9	8	53	
	12	58½	Warm, with sunshine.
		64½	The Khoondas covered with dense clouds.

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Aug. 10	8	54	Serene night.
	8	60	Hazy.
	12	71	Serene day.
11	8	58	Cloudy.
	8	60	Fine.
	12	67	Gloomy and threatening rain.
12	8	54	Sun lowering, but no rain.
	8	59	Flescy clouds floating to and fro.
	12	66	One or two flying showers.
13	8	54	Fine night.
	8	59	Cloudy.
	12	64	Heavy rain.
14	8	56	
	8	57	
	12	64	Rain throughout.
15	8	61	
	8	60	Fine morning.
	12	64	Thick dark clouds, with rain at intervals.
16	8	57	Fair.
	8	61	Fair.
	12	68	Heavy rain.
17	8	59	Cloudy.
	8	59	Calm and fair.
	12	60	Rain, with thunder.
18	8	57	Fine evening.
	8	61	Fine morn.ing.
	12	60½	Showery.
19	8	55	Fine.
	8	58	Gray morning.
	12	59½	Threatening rain.
20	8	55	Cloudy.
	8	60	Cloudy.
	12	62	Cloudy.
21	8	56	Fine evening.
	8	58	Cloudy.
	12	60	Cloudy.
22	8	54	Heavy rain.
	8	56	Gray morning.
	12	60	Cloudy.
23	8	56	Cloudy.
	8	59	Fine morning.
	12	61	Cloudy.
	8	58	Clear moonlight night.

XV

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Aug. 24	8	55	Fine.
	12	62	Fine
25	8	54	Cloudy.
	8	56	Cloudy, with strong Southwest wind.
	12	59	Small rain.
26	8	53	Drizzling rain.
	8	55½	Overcast.
	12	59	Drizzling rain throughout the day.
27	8	54	
	8	56	Dark cloudy morning.
	12	57	Drizzling rain, with a thick fog.
28	8	56	
	8	56	Hazy, and very damp.
	12	58	Showery.
29	8	54	Foggy.
	8	56	Fine morning.
	12	61	
30	8	54	Violent wind from the southward.
	8	69	Cloudy, but fair.
	12	59½	Dull.
31	8	63	Clear night.
	8	57	Fine clear morning.
	12	64	Overcast.
Sept. 1	8	55	Foggy.
	8	58	Dark sky.
	12	62	Strong southwesterly wind.
2	8	55	Hazy, and threatening rain.
	8	55	Hazy, with drizzling rain.
	12	59	Thick fog.
3	8	56	Threatening rain.
	8	57	Cloudy.
	12	62	Cloudy.
4	8	55	Hazy.
	8	57½	Fine morning.
	12	60	Cloudy.
5	8	57	
	8	56½	Fair.
	12	67	Bright sunshine.
6	8	57	Drizzling rain. Dark all round.
	8	57½	Fine morning.
	12	63	Showery.
7	8	54	Cloudy.
	8	58	Overcast.

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Sept. 8	12	64	Still cloudy though fair.
	8	64	
	8	59	Hazy, with showers.
9	12	66	Pleasant day. Sun very powerful.
	8	60	Calm night.
	8	60	Fine morning.
10	12	65	Threatening rain.
	8	60	Clear night.
	8	62	Serene morning.
11	12	60	Heavy rain. [mountains.
	8	60	Dark heavy clouds hovering over the
	8	61	Fine morning.
12	12	67	Calm and fair. Cloudy to the westward, with occasional showers.
	8	68	Dark heavy clouds around the hills.
	8	64	Calm.
13	12	69	Sultry. Black clouds to the Southwest.
	8	68	Lightning.
	8	60	Fair.
14	12	64	Heavy showers.
	8	57	Cloudy.
	8	58	Clear morning.
15	12	68	Cloudy, with occasional heavy showers. This day the deposit of rain was one inch.
	8	60	Dark cloudy night.
	8	58	Still cloudy, with more rain.
16	12	67	Heavy clouds, with gentle rain.
	8	57	Fine night.
	8	60	Hazy morning, with more rain.
17	12	68	Heavy rain.
	8	56½	Starlight night.
	8	59	Clear and dry morning.
18	12	63	Showery at noon.
	8	57	Cloudy.
	8	59	Very chilly. Cold wind.
19	12	63	Heavy rain.
	8	58	Heavy rain.
	8	57½	} Gloomy weather. Cessation of rain
20	12	62½	
	8	57	
	8	58	Very gloomy weather.
	12	62	Heavy rain.

xvii

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Sept. 21	8	56	Strong wind.
	9	57	Very cloudy.
	12	61	Much rain. [out the night.
22	8	56	Boisterous weather. Rain through-
	8	57	Rain.
	12	62	Slight showers.
23	8	58	Fresh breeze from the westward.
	8	56	Stormy weather.
	12	60	Smart showers from the South west.
24	8	55	Threatening appearances. Rain dur-
			ing the night. [drizzling rain
			High wind, with driving clouds and
25	12	57	
	8	58	Fine night.
	8	53	Hazy morning.
26	12	65	Strong breezes, with alternate sun-
			shine and shower.
	8	58	Fine night.
27	8	58	Misty, with slight rain.
	12	58	Drizzling rain, with cold wind.
	8	56	Thick fog, with occasional squalls.
28	8	57	Foggy.
	12	64	Flying showers.
	8	55	Fine night.
29	8	64	Charming morning. The thermo-
			meter rose to 81° in the sun.
	12	64	Cloudy.
30	8	54	Misty, with strong breezes.
	8	56	Fine morning. [strong wind.
	12	64	Heavy clouds to the Southwest and
Oct. 1	8	54	The hills covered with dense clouds.
	8	56	Sunshine. The thermometer rose
			17° in the sun.
2	12	84	Fresh breezes, with slight rain.
	8	53	Dark threatening clouds to the S.W.
			Slight rain.
3	8	66	Sunshine. Strong Southwest wind.
	12	62	Overcast.
	8	51	Bright moonlight night, with a gentle
4			breeze from the Northeast.
	8	55	Beautiful morning.
	12	62	Fine day.
	8	58	Dark heavy clouds around.

XVIII

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Oct. 3	8	54	Heavy clouds to the Northeast.
	12	64	Sunshine.
4	8	50	Clear night.
	8	56	Cloudless morning.
	12	63	Serene day.
5	8	55	Calm. Cloudy to the eastward.
	8	57	Serene morning.
	12	64	Cloudy to the Northeast.
6	8	54	Clear night. Lightning to the N.W.
	8	57½	Fair. [with slight rain]
	12	66	Cloudy, especially on the mountains.
7	8	55	Heavy rain from the Southwest.
			Much lightning.
	8	57	Very cloudy. [fall]
8	12	61	Slight rain, but threatening a heavy
	6	54	Heavy rain.
	8	56½	Cloudy, but fair.
9	12	65	Misty and rainy.
	8	56	Dense clouds around. Very damp.
	8	56½	Sunshine.
10	12	63	Very cloudy.
	8	53	Much lightning to the eastward.
	8	57	Mild morning.
11	12	63	Heavy rain.
	8	52	Fine night. Lightning from the N.E.
	8	56	Fair, but cloudy.
12	12	61	No rain.
	8	52½	Lightning from the Northward.
	8	67	Fair. Easterly wind.
13	12	61½	Heavy clouds around. Very damp.
	8	55	Much rain with lightning.
	8	58	Sunshine. The thermometer rose
14			to 82 in the sun and when the orb
	12	61	became partially obscured, the
	8	54	glass fell 7 degrees.
15	8	57	Heavy rain. Very damp.
	12	58	Cloudy
	8	52	Chilly, with occasional showers.
16	8	52	Much rain
	8	56	Sunshine. The thermometer rose
			36° in the sun, at nine o'clock.
17	12	58	Heavy showers.
	8	53	Lightning to the eastward.

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Oct. 16	8	57	Fair morning.
	12	60	Slight showers.
	8	52	Heavy rain with violent gusts of wind.
17	8	55	Mountains covered with clouds.
	12	61	Threatening a heavy fall of rain.
	8	53	Heavy rain throughout the evening.
18	8	57	Much rain. Murky weather.
	12	62	Very cloudy.
	8	54	Threatening rain. A very heavy fall during the night.
19	8	57	Fine morning.
	12	64	Sunsh. n.e.
	8	55	Thunder and lightning to the S.S.W. Much rain throughout the night.
20	8	53	Thick fog.
	12	62	Showery. [ward
	8	56	Much rain. Lightning to the east
21	8	56	Fine morning.
	12	61	Cloudy
	8	53	Moonlight night. Occasional showers and much lightning.
22	8	54	Cloudy.
	12	61	Dull, with rain.
	8	53	Lightning to the eastward.
23	8	55	Fair.
	12	62	Cloudy.
	8	54	Heavy showers during the night.
24	8	57	Sunshine.
	12	62	Cloudy, and showery.
	8	54	Fine night.
25	8	54	Threatening rain.
	12	62	Showery.
	8	52	Violent squalls from the Northeast.
26	8	52	Fine morning. Strong easterly wind.
	12	61	Fair day. [the night.
	8	50	Overcast. Heavy dew throughout
27	8	52	Cloudy.
	12	62	Showery, thunder in the afternoon.
	8	50	Lightning to the westward.
28	8	52	Heavy clouds around.
	12	62	Threatening rain.
	8	50	Misty. Rain during the night.

XX

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather
Oct. 29	8	53	Hazy, and very damp.
	12	63	Heavy clouds around.
	8	60	Heavy dew.
30	8	62	Cloudy and hazy.
	12	62	Rain.
	8	51	Much rain.
31	8	53	Sunshine.
	12	62	Fair day.
	8	50	Dark lowering clouds to the North-east. Much rain in the night.
Nov. 1	8	53	Fine morning.
	12	61	Cloudy, but fair.
	8	60	Fine clear evening. Lightning to the southward. Heavy rain through a part of the night.
2	8	64	Cloudy and misty.
	12	63	Sunshine.
	8	52	Heavy clouds around. Rain at night.
3	8	53	Thick haze, with drizzling rain.
	12	62	Dull and gloomy. Very damp.
	8	51	Hazy, with dark clouds. Distant lightning in the E.N.E., rain in the night.
4	8	51	Misty and fair.
	12	61	Cloudy, especially on the mountains.
	8	50	Weather as at noon. Slight rain.
5	8	53	Cloudy.
	12	62	Gloomy.
	8	53	Calm and cloudy. Heavy rain at night.
6	8	53	Salt cloudy.
	12	62	Fine day.
	8	51	Heavy dew. Distant lightning.
7	8	57	Cloudy.
	12	63	Showery.
	8	50	Clear night.
8	8	55	Clear, with rising clouds to the N.E.
	12	63	Overcast.
	8	52	Fine night.
9	8	56	Clear, with rising clouds to the N.E.
	12	62	Few drops of rain.
	8	55	Cloudy night.
10	8	52	Fine morning. [clouds. Slight rain.
	12	62	Gloomy. Mountains covered with

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather
Nov. 11	8	52	Fine clear evening.
	8	53	Serene morning.
	12	63	Fine day.
12	8	52	Clear. Lightning to the eastward.
	8	57	Cloudy morning. Rain at daylight.
	12	62	Drizzling rain.
13	8	51	Thick dark clouds, with rain and wind.
	8	55	Thick fog, with strong breeze and drifting rain.
	12	62	Drizzling rain. Very hazy.
14	8	51	Still rainy and windy. Thick mist.
	8	54	Misty and rainy.
	12	62	Overcast.
15	8	50	Fine night.
	8	53	Clear morning.
	12	63	Fair day.
16	8	51	Serene night.
	8	54	Fog and rain.
	12	62	Gloomy day.
17	8	50	Hazy and rainy. Much rain throughout the night.
	8	55	Dense clouds around. Drizzling rain.
	12	62	Heavy showers in the afternoon.
18	8	50	Foggy and rainy.
	8	50	Gray morning. Frost in the valleys.
	12	63	Pleasant day.
19	8	48	Clear moonlight night.
	8	46	Beautiful morning. Hoar frost.
	12	62	Serene day.
20	8	47	Cloudy and rainy, with thick haze.
	8	48	Heavy dew this morning.
	12	63	Pleasant day.
21	8	47	Clear night.
	8	50	Cloudless morning.
	12	64	Warm day.
22	8	46	Frosty night.
	8	50	{ As yesterday
	12	65	
23	8	46	Clear morning.
	12	64	

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Nov. 24	8	48	Cloudy evening.
	8	50	Cloudless morning.
	12	65	Serene day.
	8	48	Frosty night.
	8	48	Gray morning. Frost in the valleys.
	12	57	Strong easterly wind. Rain at 3 p. m.
	8	48	Cloudy, with violent easterly wind.
	8	50	High easterly wind. Clouds.
	12	58	Fair, but very cloudy. Wind and rain in the afternoon.
	8	50	Hazy. Violent easterly wind.
	8	54	Foggy and rainy morning.
	12	53	High wind. Hazy. Slight rain.
25	8	50	Thick fog. Strong Northeast breezes.
	8	55	Cloudy morning. Fresh East wind.
	12	60	Fair, with distant clouds. At 4 p. m. haze and slight rain.
	8	50	Very cloudy.
	8	55	Clouds, and distant clouds.
	12	59	Thick fog.
	8	48	Misty and windy. Much rain and wind in the night.
	8	50	Foggy, and rainy.
	12	60	Foggy, with more rain.
	8	48	Thick fog. Drizzling rain.
	8	53	Thick fog. Rain.
	12	61	Fair. Very cloudy.
Dec. 1	8	50	Misty evening.
	8	47	Fine morning. Heavy dew. Slight frost.
	12	69	Bright sunshine. Light clouds over the Khoondaks.
	8	47	Clear evening. Lightning to the Southwest.
	8	50	Calm, and fair.
	12	53	Cloudy. Very mild.
	8	49	Clear night.
	8	49	Gray morning.
	12	63	Sunshine, with distant clouds.
	8	48	Clear.
	8	52	Charming morning.
	12	63	Sunshine, with light floating clouds.

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Dec. 6	8	50	Serene night.
	8	53	Clear: light clouds.
	12	63	Bright sunshine.
7	8	51	Beautiful night.
	8	57	Hazy morning, with drizzling rain.
	12	64	Still overcast.
8	8	52	Serene night. Cloudy at midnight, with slight rain.
	8	55	Fair. Light floating clouds.
	12	62	Cloudy all day.
9	8	51	Pleasant evening.
	8	47	Clear frosty morning.
	12	62	Cloudy day.
10	8	48	Clear night. Heavy dew.
	8	49	Clear: light clouds.
	12	63	Serene day.
11	8	48	Fine night.
	8	49	Cloudless morning.
	12	64	Bright sunshine.
12	8	47	Lightning to the Southwest.
	8	48	Clear morning.
	12	65	Light clouds.
13	8	45	Brilliant night.
	8	46	Clear morning.
	12	64	Serene day.
14	8	45	Bright night.
	8	50	Serene morning.
	12	63	Fair, with clouds and distant clouds.
15	8	47	Foggy, but fair.
	8	50	Fair morning.
	12	62	Light floating clouds.
16	8	48	Foggy evening.
	8	51	Hazy and cloudy.
	12	61	Dark heavy clouds around.
17	8	50	Hazy, and rainy.
	8	56	Light floating clouds around.
	12	61	Dark heavy clouds. No rain.
18	8	50	Gloomy night.
	8	54	Hazy with drizzling rain.
	12	62	Fair.
19	8	51	Hazy and cloudy.
	8	55	Calm and cloudy.

XXIV

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
Dec. 20	12	61	Gloomy. Mountains covered with
	8	50	Clear evening. [clouds.
	8	54	Cloudy, but fair morning.
	12	61	Dark lowering clouds around.
	8	50	Hazy evening.
21	8	52	Still lowering.
	12	62	Thick dark clouds.
	8	50	Hazy. Midnight clear. Lightning to the southward.
22	8	53	Thick haze, with drizzling rain.
	12	63	Very cloudy.
	8	51	Cloudy, and at times a thick haze.
23	8	48	Light floating clouds.
	12	60	Cloudy, but fair.
	8	51	Thick fog.
24	8	48	Light clouds around.
	12	61	Clouds, and distant clouds.
	8	48	Fine night.
25	8	50	Serene morning.
	12	60	Light clouds.
	8	49	Heavy dew.
26	8	49	Clear morning.
	12	61	Serene day.
	8	53	Bright night. Frost.
27	8	49	Clear morning.
	12	59½	Light floating clouds.
	8	50	Fine night.
28	8	49	Clear morning.
	12	60	Bright sunshine.
	8	53	
29	8	48	Cloudless morning. Slight frost.
	12	60	Bright sunshine. Dull afternoon.
	8	52	Thick fog. After the rise of the moon the fog cleared off.
30	8	48	Serene morning.
	12	60	Light floating clouds.
	8	47	Fine clear night. Frost.
31	8	45	Fine clear morning. Dry easterly
	12	60	Clear horizon. [wind.
	8	45	Serene night. Frost.
1854 Jan. 1	8	48	Charming morning.
	12	60	Fine clear day.

XXV

Day of the month.	Time of day.	Height of Thermometer.	Remarks on the Weather.
	8	41	Cloudless night. Hard frost. Thermometer at midnight 33°.
Jan. 2	8	47	Light floating clouds.
	12	50	Light fleecy cloudy.
	8	43	Fine frosty night.
3	8	45	Light clouds around. Frost.
	12	50	Calm and cloudy.
	8	43	Gloomy evening.
4	8	46	Charming morning.
	12	59½	Cloudy. Calm.
	8	45	Serene evening.
5	8	43	Sharp frosty morning. Clouds over the lake.
	12	59	Bright sunshine. Light fleecy clouds on the horizon.
	8	41	Fine frosty night.
6	8	44	Cloudless morning. Heavy dew on the hills.
	12	60	Fog over the lake. Frost in the valleys. Overcast. Heavy clouds over the mountains.
	8	43	Fine night.
7	8	45	Dew on the hills. Frost in the valleys.
	12	51	Overcast.
	8	43	Still lowering.
8	8	45	Bright morning. Heavy dew on the hills. Frost in the ravines and valleys. Thick fog over the surface of the lake.
	12	50	Light fleecy clouds.
	8	41	Fine frosty night.
9	8	47	Cloudy, but fine morning.
	12	50	Fleecy clouds around the hills.
	8	46	Cloudy evening.
10	8	48	Serene morning.
	12	60	Clear day.
	8	48	Calm night.